Smart Computing

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In Plain English ®

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FIX
THE 50 MOST
ANNOYING
PC PROBLEMS

*System Crashes, Slowdowns, Spyware, The Web, Printing & **More***

Use Your PC To
Share Music
With Your Family

D-Link's MediaLounge Wireless Media Player p.74

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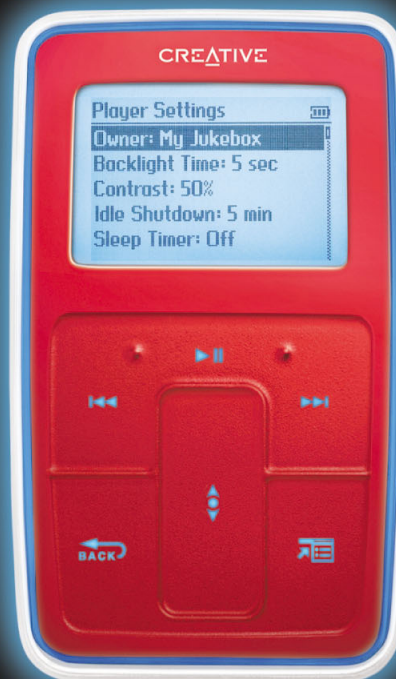
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THIS MONTH'S COVER STORY:

PC Problems
Cure The Worst Headaches

The USDA does more than the food pyramid; check out its info on food recalls.

Editor's Note: Cure The Worst PC Headaches

Before we start whining, let's admit that computers *do* make our lives easier, better, and more enjoyable. Would you really want to type that Great American Novel on the old Underwood? Would you truly enjoy spending months compiling a genealogy the old-fashioned way? Would you want to go back to trundling down to the local library every time you needed to look up a fact? Would you be able to stay in touch with your old college buddies this easily without a computer?

So it's settled, then. The entire reason we have these machines is to make our lives better, easier, and simpler. And, by and large, that's what they do, OK? Good. Now let's get on to the part where we whine.

There's a special place in hell reserved for hardware vendors that use cheap or underpowered parts and for software publishers whose uninstall routines fail to actually uninstall a program or whose programs refuse to work well with other applications (sometimes even with the publisher's own applications). Also for marketing people who launch a product before it's truly ready to go, thereby relying on us customers to be their beta testers. And, of course, there's an entire *region* of hell reserved for virus-writing, spyware-formulating, scamming/phishing miscreants.

Not that I'm bitter or anything.

Now that I've vented a little, I'd like to point out that there *are* solutions to such headaches. If your Internet connection is flaky, if your video display flickers, if your system locks up or crashes, if you're spooked by spyware or fuming about phishing, if your printer keeps churning out photos that look like a child's fingerpainting experiments. . . . If you're suffering some PC-related malady, we can help. In this issue, we tackle 50 of the worst PC headaches. Read on and solve your computer problems so that we can get on to whining about things that are even more imporant, such as the Electoral College, perhaps, or—of even more import—the designated hitter rule.

Rod Scher

ROD SCHER, PUBLICATION EDITOR

Now Available On Newsstands . . .

Computer Power User * Dual-Core Delight
Two CPUs in one package—that's dual-core and it makes your computing experience smoother than ever before. This month, evaluate the best dual-core processors from AMD and Intel and then put the latest next-generation motherboards to the test. The time for your next upgrade is coming fast, and we're here to help.

PC Today * BlackBerry & Travel Sites
This month's *PC Today* includes two cover stories. The first offers tips for getting started with and using a BlackBerry smartphone. The other explores the best Web sites for travelers, including destination guides, travel-booking sites, and online services.

CE Lifestyles * Laptops
From university students to busy working moms, laptops can free us from the wires and tangles of conventional PCs while keeping us connected to our friends, family, and colleagues. We tell you what to look for and what questions to ask when shopping for the perfect notebook computer.

Reference Series * PC Modder v2.1
This CPU special issue is packed with info on modding your PC to perfection. Get detailed information on the latest internal components and how to squeeze the most performance from each one, then check out our expert cutting, fabrication, and painting advice for help in making your system look its best.

Corrections/Clarifications
In our July issue (pg. 75), we recommended using dates as part of your photo-naming convention. A great idea, but our example used forward slashes (/), which Windows will not allow. Use underscores (_) instead. Also, the price of the Everything I Own inventory application (see pg. 23 of our August issue) has increased to $19.95.

Sandhills™ Publishing

Compiled by Christian Perry
Illustrated by Andria Schultz

Apple: Goodbye PowerPC, Hello Intel

Peanut butter and jelly. Bees and honey. Apple and . . . Intel? Some things are just meant to go together, and according to Apple CEO Steve Jobs at Apple's recent Worldwide Developers Conference, Apple and PowerPC will no longer be two of them.

After explaining to keynote attendees that the Mac has seen two major transitions up until now, including the switch from 68K to PowerPC and the switch from Mac OS 9 to OS X, Jobs dropped the bomb.

"We want to constantly be making the best computers for you and the rest of our users, and so it's time for a third transition, and yes, it's true," Jobs said. "We are going to begin the transition from the PowerPC to Intel processors, and we're going to begin for [the developers] now and for our customers next year."

According to Jobs, OS X has been able to run on both Intel and PowerPC chips since the beginning, and this processor-independent strategy will help ease the transition. To prove his point, Jobs gave the audience a real-time demonstration of OS X running on an Intel-powered system, using Dashboard Widgets, Safari, iPhoto, and other tools.

The name of the game is power, and Jobs pointed to IBM's inability to supply PowerPC chips that could meet Apple's demands now and in the future.

"As we look ahead, we can envision some amazing products we want to build for you, and we don't know how to build them with the future PowerPC road map," Jobs said. "When we look at Intel [products], they've got great performance, yes, but they've got something else that's very important to us. Just as important as performance is power consumption."

Apple's PowerPC-based laptops continue to lag far behind Intel-powered laptops in terms of performance, power, and price—a point that even Mac diehards find difficult to argue.

Although the move won't initially impact PC users, Apple's knack for innovation could mean exciting things are ahead for the traditional PC architecture. ▮

Now That You Mention It, I Do Hate Spyware

A recent survey by the CSIA (Cyber Security Industry Alliance) and Pineda Consulting states that 93% of people consider spyware a serious problem. That is, the survey participants considered spyware a problem *after* they were told how spyware could be harmful. Before the explanation, only 61% of respondents thought spyware was a serious problem.

Post-Description: **93%**
Pre-Description: **61%**

0 20 40 60 80 100

■ Very Serious Problem   □ Somewhat Serious
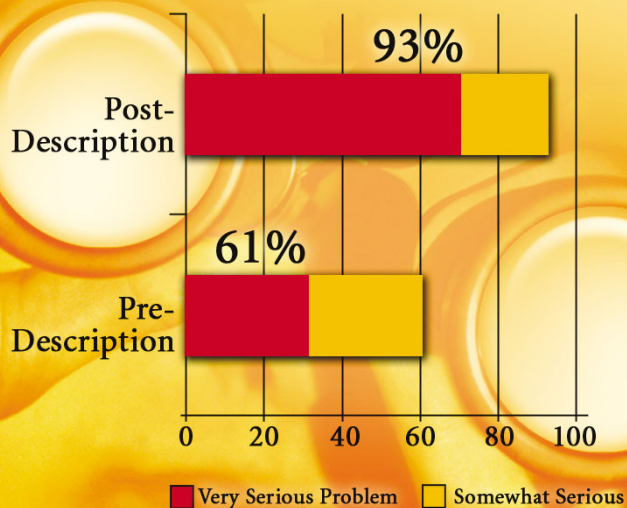
Source: Cyber Security Industry Alliance, 2005

Dell Gives Its Laser Printer Rock-Bottom Price

So you're tired of using your color printer's expensive ink to print black-and-white pages, but you can't afford a laser printer. What to do? Take a look at Dell.

The company's new Laser Printer 1100 prints up to 15 pages per minute at 600dpi (dots per inch), has a 5,000-page per month duty cycle, and holds up to 150 sheets of paper. Although none of these specs will knock your socks off, the Laser Printer 1100's $99 price tag will.

Sure, the 1100 ships with a half-capacity toner that prints 1,000 pages, but low-cost laser printers from other manufacturers (such as Lexmark) feature the same limitation. The good news is that a new, 2,000 page-yield toner will set you back only $65.

Not all home users have room for more than one printer, but if you find yourself continuously using your color printer for heavy-text print jobs, perhaps it's time to make room for a new, inexpensive laser printer. Better yet, wait awhile to see how other manufacturers respond to Dell's massive price undercut. ▌

WiMAX Finally Rears Its Head

Hype is finally morphing into reality for WiMAX (Worldwide Interoperability for Microwave Access), as BellSouth recently announced plans to offer the broadband technology in Athens, Ga., with cities in Florida on the plate for later this year.

Actually, BellSouth is calling the service "pre-WiMAX" because the technology isn't officially certified, but for those anticipating the wireless service, they'll take any name they can get. Hyped for years as the last-mile solution that will get broadband service to even the most remote users, WiMAX is based on the IEEE 802.16 wireless broadband standard and theoretically delivers fast speeds within a radius of up to 31 miles.

Not to be outdone, Qwest announced plans to test WiMAX near Denver in the fourth quarter of this year. According to Qwest, the trial is expected to last six to nine months, and the initial technology will feature ranges of four to five miles.

If you're stuck without broadband because your cable or telephone company says you're too far away, keep a close eye on these developments. ▌
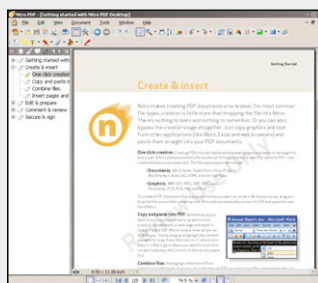
Nitro, The PDF Underdog

Adobe is nice enough to give you a free PDF (Portable Document Format) reader, but if you want to create or modify PDFs, Adobe wants you to shell out $300 for Acrobat. Now there's a far cheaper option. For $99, Nitro PDF Desktop from ARTS PDF grants you all the basics of PDF creation, albeit in a less-slick package than what Adobe Acrobat delivers. Whereas Acrobat features a sensible, refined interface that's easy to navigate, Nitro PDF supplies tiny buttons that can be difficult to understand. But after you've become accustomed to the interface, you'll find the same functionality in Nitro PDF that's included in Acrobat.

You can create PDFs from many types of files or use the built-in Organizer to convert or combine batches of files. For existing PDFs, you can add notes, highlights, stamps (such as Draft, Expired, etc.), and similar modifications. You also can edit text, tweak graphics, add bookmarks, and resize pages.

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The relatively low price of Nitro PDF makes it a wise choice for those who need basic PDF capabilities. But be warned that if you're unfamiliar with creating and modifying PDF files, you might have a hard time following the software's documentation. ▌

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Crackers Serve Up New Breach

A new month, a new credit card breach. This time crackers hit CardSystems, a third-party credit card transaction processor, and the heist was a doozie.

More than 40 million accounts were exposed by crackers who gained access to the company's database and installed a virus-like script. Although MasterCard says that information, such as Social Security numbers, wasn't exposed, other sensitive information did leak through, including cardholder names, account numbers, expiration dates, and security codes.

This information isn't typically retained by processing companies after transactions are completed, but CardSystems admitted it was saving the data for "research purposes." Visa and MasterCard require processors to discard the information after handling transactions.

CardSystems apparently encountered trouble meeting MasterCard's security compliances in the past, but this time, MasterCard noticed enough unusual fraudulent activities on cards to prompt an investigation by an independent forensics team. Although MasterCard initially noticed the activity in mid-April, security personnel didn't locate the rogue program that allowed the theft until May 22.

CardSystems claimed soon after the breach that it was addressing the security of its systems, but MasterCard said in a release that it's giving the company "a limited amount of time to demonstrate compliance with MasterCard security requirements."

The FTC (Federal Trade Commission) estimates that about 10 million Americans suffer from theft and misuse of their personal information every year, costing consumers $5 billion. Pilfered credit card information is sold on the black market regularly, with prices fluctuating wildly depending on the included information.

Because black market credit cards don't last long before the issuer detects fraudulent activity, the black market requires a constant supply of new stolen card numbers to meet the heavy demand. ▮

Duly Quoted

"Prohibited language in text, please delete."

—The MSN Spaces section of Microsoft's new China-based Web portal greets users with this message when they enter words banned by the country's communist authorities, including "democracy," "freedom," and "human rights." (Source: Associated Press)

Logitech V200 Cordless Notebook Mouse
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Little Mouse, Big Results

Once residing in a realm littered with frustration and hand pain, the world of notebook mice now looks bright, thanks to Logitech's latest entries. We tested the company's new V200 Cordless Notebook Mouse and came away pleasantly

New Products Hardware

Compiled by Kylee Dickey

Quick takes on the latest hardware and software to hit the market at press time. Manufacturers' and publishers' release dates are subject to change, so some products may not be available when you read this. (Logos indicate products compatible with either Windows or Macintosh only.)

Product	Phone	Website	Description
1GB Kanguru Bio Drive Kanguru Solutions $219.95	(888) 526-4878 (508) 376-4245	www.kanguru.com	*Flash drive with a biometric sensor to block sensitive files from unauthorized users*
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SX-2000U2 USB Device Server silex technology america $149	(866) 765-8761 (801) 748-1199	www.silexamerica.com	*Share connected USB devices over a network*

surprised with the results.

Laptops demand portable peripherals, but mice can get only so small before you're looking back to the touchpad with fond memories. Yet Logitech got this size just right with its V200, which we tested using a variety of hand sizes. Even if you're accustomed to using a massive mouse with your desktop PC, you'll appreciate the girth of the V200. The sleek silver and black case isn't too shabby, either.

The V200's usability shines, particularly when paired with the included SetPoint software. In addition to left and right buttons, the scroll wheel can be clicked to the left or right to horizontally scroll through large Web pages or documents. Pointing is precise (even in games), and the mouse glides smoothly over almost any surface.

The V200 uses a 2.4GHz wireless signal that Logitech claims delivers a stronger connection than what you'll get with a conventional 27MHz signal. Simply pop the included batteries into the mouse, plug the tiny receiver into a free USB outlet, and you're good to go. Although Logitech advertises a range of up to 30 feet, we enjoyed a connection well beyond that—even through walls. The company also claims that the batteries will last up to one year.

When you're ready to pack up and go, you can attach the wireless receiver to the bottom of the mouse for easy, safe storage—another nice touch for a winning mouse. ❚

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GetByMail 1.0 GetByMail.com $29.90	sales@getbymail.com	www.getbymail.com	*Access files on a remote computer through your email program*
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Great theater deserves a great setting.

The sleek, free-flowing lines of Sanus Platinum furniture reflect the beauty of today's digital televisions. And the newest addition, model PFFP flat panel TV stand, opens up possibilities to mount a flat panel television anywhere. An extruded aluminum column extends rigid strength from the steel-framed base to handle flat panel TVs up to 50". The Virtual Axis™ tilting system provides smooth motion with the touch of a fingertip. And features like a hidden cable channel, an adjustable glass shelf and a custom blended silver finish provide the perfect finishing touches to this innovative flat panel TV stand. So if your home theater is short on wall space, your options are now wide open.

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God Dag, Mormor!

Two of my grandchildren are growing up bilingual. Their American mom talks to them in English, while their Swedish dad sticks to his native language. This is absolutely wonderful for the kids, but this English-speaking grandmother doesn't really want to have her grandchildren saying things she doesn't understand. So the quest to learn Swedish begins. As you might expect in this TechMates column, I found a wonderful pairing of hardware and software to help me.

The hardware is the trusty Dell Axim X30 I use for keeping track of appointments and storing addresses. I also use the Axim to make short voice recordings and to listen to audio books.

The Axim has a 624MHz processor with 64MB SDRAM. This gives it plenty of power to run the included applications such as Pocket Word and Pocket Excel. To be honest, I seldom use these as I don't like being confined to a tiny screen and on-screen keyboard or the Transcriber shortcut text entry. I prefer to grab my laptop when it comes to working on Word documents or spreadsheets. I usually use my laptop to view Web pages and write email. Yet I have used the Axim's (optional) Wi-Fi capabilities to hook up to a wireless network to retrieve an important email or check a news article every now and then. Also, this Pocket PC runs the Windows Mobile 2003 Second Edition operating system, which allows me to switch the display from landscape to portrait. I use this feature all the time. The X30 has built-in Bluetooth wireless (another optional add-on), which is another feature that I don't often use. I tend to stick to the simpler tasks such as showing off pictures of the family on the screen.

Talk The Talk

But this month I expanded the use of my Axim. I paired it with the LingvoSoft Gold Talking Dictionary for Pocket PC. I was totally amazed by the number of languages in which LingvoSoft publishes this software. Choices include the usual Spanish, Italian, French, and German, but go on to cover over 40 other languages such as Polish, Thai, Vietnamese, Greek, and Yiddish. Of course, I chose the English-Swedish edition.

The software installation was a breeze. I already had the Axim set up on my PC, so all I had to do is attach the Axim to the computer, download the software, and click Install. At the end of the installation process, a message appeared on the Axim prompting me to restart it. When it rebooted, the software was up and running. You can scroll through an extensive
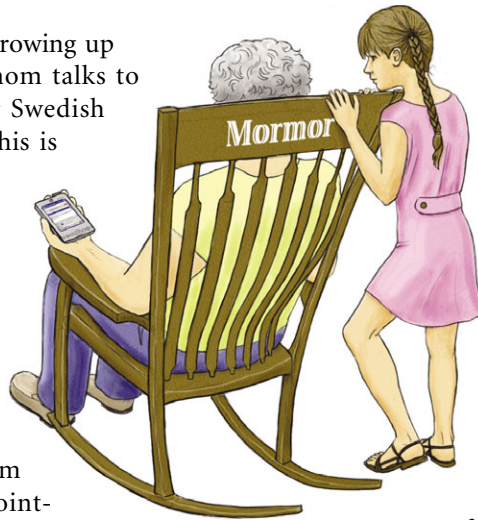
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Axim X30
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list of words. The Gold version boasts 360,000 words and phrases.

If you click the box to enter your own word, a keyboard appears on the screen. You can even create your own list of words, called a Filtered List. The dictionary is bidirectional. You can go from English to Swedish or Swedish to English with a tap of the stylus.

The program works very well, but I was disappointed in the "talking" part. Many, but not all, English words could be pronounced, but it couldn't pronounce anything in Swedish. The man's voice was very stilted. It improved slightly when I realized that I could control the volume, rate, and pitch of the voice, but I was still unimpressed.

LingvoSoft is planning to release updated versions of all Pocket PC dictionaries with an improved TTS (text-to-speech) engine this fall. These talking dictionaries will provide pronunciation of words in both languages, a big improvement.

The LingvoSoft dictionaries come in several versions: Basic ($14.95) and Standard ($24.95) are less expensive than Gold. There's even a trial version. These cheaper dictionaries have fewer words, but as they are more commonly used words, these versions might be adequate for many users. I am more likely to be looking for words and phrases such as grandmother (mormor), wave (vinka), hello (god dag), and it's raining (det regnar). The LingvoSoft Web site (www.lingvosoft.com) also has useful free online translation dictionaries.

While this dictionary is not exactly an intensive course in learning Swedish, it will certainly come in handy, both here and on my next trip to Sweden. Also, I love being able to make better use of my Pocket PC. ❚❚

BY SANDY BERGER

Sandy Berger *is a nationally respected technology author and computing expert. Sandy's aim is to convey to others in easy-to-understand language what they need to know to take advantage of today's technology. Visit her at* **http://www.compukiss.com** *or email her at* SandyB@smartcomputing.com.

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Although the antivirus software reps who pummel me with sensational alerts might disagree, I don't think the Internet is more dangerous today than it was a decade ago. Sure, malicious users have a ton of toys, including spyware and adware. But as malicious users have intensified attacks, technology has risen to meet the challenge.

Although the technology is there, many users don't protect themselves because they don't know how to use today's tools, such as firewalls. You run into the same issue with cars. You may know almost nothing about the engine that propels you to your next engagement, but you know to take the car in for oil changes; you know to protect your engine and you know what protects it, even though you might not really understand how. The difference is that you can take your car to an automotive expert; but you must choose and install the firewall yourself.

So what should you do to keep your computer safe? Install antivirus software, of course. Your email address will eventually find its way onto a list, and from then on, the virus-ridden emails will bombard your inbox. You can also protect yourself by adding a software firewall. But don't overlook hardware firewalls. Hardware firewalls are devices that sit between your PC and the Internet. They scan information before it reaches your PC and reject malicious data. Most firewalls aren't cheap, and they often have complicated menus.

But the average Internet user isn't really interested in a firewall's settings and features—she just wants the oil change. Enter the Stingray ST-100, a firewall that doesn't have settings, extra features, or easily forgotten passwords. Thanks to this device, you can throw up a defense against intruders without knowing a thing about security.

Plug It In

I took my computer offline for only a minute while I set up the Stingray. After you plug the device's power cord into a wall outlet, you simply unplug your computer's Ethernet cable from the cable or DSL (Digital Subscriber Line) modem and plug it into one of the Stingray's two ports. Next, you plug one end of the included Ethernet cable into the Stingray and plug the other end into the modem. Your Internet connection resumes, and your PC is protected.

You can also use the Stingray to protect your home network. When I placed the Stingray between my cable modem and my router (instead of between the cable modem and a single computer), it continued filtering data without throwing off the router.

Because your firewall doesn't have standard rules for filtering suspect data packets, malicious users will have more trouble bypassing it, than, say a firewall that has a known weakness. Also, you can't access the device's settings, so you can't accidentally make the Stingray vulnerable.

Look Ma: No Settings

Don't worry that the Stingray will block legitimate data from reaching your computer: The device's sole button is the Bypass button, which lets all data flow through the Stingray as though it weren't there. If you suspect that the Stingray is blocking legitimate data, you can press that button to find out. I like this button: Most firewalls bury the bypass setting in the settings interface.

The Stingray uses three lights to indicate the device's status. Although you'll need to consult the Stringray's manual to decipher the codes at first, you'll get the hang of it quickly. The Stingray's most important code (which indicates that the device is operating normally) takes the form of three green lights.

Protection At A Price

At $79.99 (the site lists it as $129.99 Canadian dollars), the Stingray isn't cheap, but it's easy to use and it includes an unusual firewall extra: antivirus software. If you register your device via Stingray's Web site, you can download free antivirus software that remains free (including the updates) for the life of the firewall. Stingray backs up its ST-100 firewall with a one-year warranty. ▌▌

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Backing Up Is Hard To Do

Iomega REV USB 2.0 Drive

Chad Denton

Send Chad your opinions at chad@smartcomputing.com

I have an embarrassing confession to make: I don't backup my PC. All those important documents, images, and music files are just one blown spindle away from oblivion. I know this all too well and yet I still don't take the time to make backups.

Backing up is a slow, tedious process and one that's usually done in vain, which leads me to think I'm not the only one neglecting my backups. Given the size of today's hard drives, the 4.7GB you can squeeze on a typical DVD just isn't all that much. I can't even get all my MP3 files on a single DVD.

Everyone remembers Iomega for its Zip drives. Iomega is still making its Zip drive, along with a variety of other storage products. One of Iomega's specialty drives is its REV drive, which uses 35GB cartridges for data storage. In other words, it's kind of like a Zip drive on steroids, albeit expensive steroids.

The REV drive isn't cheap. The USB 2.0 drive I reviewed sells for $399.99. The drive comes with one REV disk and additional disks run $59.99 (or you can buy them in a pack of four for $199.95). That's rather pricey for 35GB, considering you can buy a 10 pack of single-layer DVDs for about $10. REV disks, however, are more resilient than optical discs. Each disk is well protected from dust, dirt, and scratches. According to Iomega, each disk has a 30-year shelf life.

Plug It In

Like any geek, I set the instructions aside and proceeded to connect the REV drive to my system. Windows recognized the drive, and I was able to access it, but I wasn't able to copy files to the drive. I installed the included software, and after a restart, I had read/write access. I briefly browsed the online instructions (for research purposes only, I assure you) and confirmed that the system software was necessary to write to a

disk, but not to read a disk (a wise decision, as it makes restoring from a backup easier).

You can copy files to a disk just as you would any disk, but Iomega's Automatic Backup Pro software is a better way to tackle larger jobs. The software lets you create multiple backup profiles and set different schedules for each profile. There are two types of profiles: system-wide backups and data backups. The system-wide backup creates an image of an entire drive while data backup saves only files from specific directories. System-wide backups are saved as an image, so you can't simply pluck individual files as needed and must rely on the software's included restore feature. You can, however, compress image files to fit more data on a disk. Depending on the type of data on a drive, you can fit as much as 90GB of data on a 35GB REV disk. You can save data backups as an image file or as individual files. The latter option lets you retrieve individual files as needed without using the software's restore feature but doesn't allow you to compress the data at all. Data backup profiles include a handy option to automatically back up a directory anytime you make changes to files within the directory.

As you might expect, Iomega also gives you a variety of ways to protect your data. You can encrypt data so that you need a username and password to read or write data to the disk. This normally isn't a wise option for system-wide backups, as you'll need the Iomega software before you can read from the disk. Additionally, you can also write protect a disk to prevent others from modifying the contents or overwriting key files.

Performance was decent. I backed up 31.1GB worth of data in roughly 30 minutes without any sort of compression or encryption. Setting the compression level to High, however, extended the backup time to about an hour.

Overall

Iomega's REV drive takes some of the sting out of system backups. I was impressed by the drive's performance, and the Iomega Automatic Backup Pro software is fairly flexible for a bundled application. Of course, the REV drive is compatible with other backup software on the market, as well. ▌▌

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Kylee Dickey

*Send your comments to
kylee@smartcomputing.com*

DCR-PC55 MiniDV Handycam Camcorder

$799.99
Sony
(800) 571-7669
(201) 930-1000
www.sonystyle.com

Adventure Cam 3

$299.95
Viosport
(888) 579-2267
(906) 226-9393
www.viosport.com

You may remember that five years ago, most reasonably priced digital cameras were very similar in terms of appearance and function. Today's digital cameras, however, vary wildly. You'll find small, pocket-sized digicams, waterproof cameras, and, of course, high-end D-SLRs (digital single-lens reflex), all priced at levels that many consumers can afford.

It seems that digital camcorders have also begun to evolve. Today you'll find many more standard camcorders, but you'll also see a few camcorders that stand out from the crowd. All camcorder users are not the same, and the conditions in which we shoot are not the same, either. Today the variety of camcorders on the market has begun to reflect that fact. I recently spent some time with two unique DV (digital video) camcorders.

Convenience Is Key

One of the reasons I rarely use a camcorder is that most camcorders, even compact models, are too large and awkward to carry everyday for spontaneous shooting opportunities. Sony's DCR-PC55 MiniDV Handycam Camcorder is a tiny little camcorder that seems to invite you to carry it everywhere you go. Not only is this camcorder small (4 inches high x 1.2 inches wide x 2.9 inches deep), but it also weighs just 10 ounces without the MiniDV tape or rechargeable InfoLithium battery.

Despite its small size, the DCR-PC55 has a large, 3-inch LCD (liquid-crystal display) that is bright and easy to see. The screen also swivels 270 degrees, giving the same type of flexibility found with many larger camcorders. The camera's Advanced HAD (Hole Accumulation Diode) CCD (charge-coupled device) captures movies at approximately 340,000-pixel resolution, providing up to 500-line TV resolution. Sony offers this camcorder in four colors (black, white, silver, and red) so you can choose the one that best matches your style.

The DCR-PC55 features 10X optical zoom, which comes in handy for getting in close to the action. Operating the camcorder is simple, thanks to a touchscreen that lets you navigate record and playback menus via on-screen buttons.

Life Is An Adventure

Although Sony's camcorder is smaller and more colorful than most, it isn't nearly as different as Viosport's Adventure Cam 3, a small, 4-ounce, cylindrical-shaped camcorder designed for mounting on items such as bike helmets, armbands, and cars for shooting first-person action. This cylindrical-shaped lens can attach to a variety of surfaces so you can shoot hands-free video.

A Sony Ex-View CCD captures video, but because the small Adventure Cam 3 has no recording device, you must connect another camcorder which will record the video the Adventure Cam captures. Although Viosport's device is compatible with any camcorder that has an AV-in port, its remote control is only compatible with camcorders that support LANC (Local ApplicatioN Control) technology. The remote control lets you store your full-sized camcorder somewhere such as a backpack. The remote sends commands to the camcorder so you can easily start and stop recording.

The Adventure Cam 3 may be smaller than Sony's DCR-PC55, but it features a higher-resolution CCD. The Adventure Cam 3 captures video at a resolution of approximately 410,000 pixels and offers TV resolution of up 520 lines. A variety of accessory wide-angle and zoom lenses are available.

Variety Is The Spice Of Life

I can't say which of these devices is better. It really depends on your needs. I would use Sony's DCR-PC55 more often than Viosport's Adventure Cam 3. However, I do wish that Sony's camcorder had a strap to ensure a sturdy grip on the camera. I don't go bungee jumping or perform bike stunts, so Viosport's Adventure Cam 3 isn't as useful to me. However, this camcorder may be perfect for a more active user who has a spare camcorder to which the Adventure Cam 3 can record. ▮

Dumbed-Down Digital

Automated Photography Has Its Pitfalls

Nathan Chandler

*Send insights and insults
to Nathan at
nathan@smartcomputing.com*

Technological advances continually revamp the way we live our lives, but not every digital tool completely overhauls an art form. It's no surprise that digital cameras have revolutionized photography, but perhaps more significantly, digital has changed the way we take pictures. Some of those changes benefit art and photography as a whole, but it's also wise to temper those pros by remembering some of the potential drawbacks that digicams introduce.

Snap Shots

One problem is the idea that digital cameras automate the practice of picture taking. But whether you just want to snag quick shots at a family gathering or create advanced art, digital's ease-of-use is deceptive.

In fact, some of a digicam's novice-friendly features might actually hamper a beginner's ability to take good pictures. Consider the boom in programmed shooting modes, so-called scene modes designed to simplify certain shooting situations. But this simplicity is deceiving, because, for example, an Action mode that works well for capturing outdoor track meets will be insufficient for getting clear basketball shots in a dark gym.

Even worse, some digicams have dozens of scene modes, so finding the appropriate mode can be a hassle. It would be easier and more effective for novice users to tweak a few basic settings than to use scene modes, which are mostly for marketing purposes anyway. There's no substitute for acquiring an understanding of the way shutter speed, aperture, and other basic settings will affect your shots. The good news is that it takes only a few hours of playtime to get an idea of how to manipulate these features to your advantage.

Digital creates an LCD (liquid-crystal display) dependency in some people, as well. The little color monitor on your camera is great for immediate feedback as to the overall composition of your photo, but what you see on the small screen often looks completely different in terms of exposure and sharpness when you load images onto your high-resolution PC monitor. But again, learning basic camera operation and finding the settings that are best for common situations will help you combat this problem.

What's more, digicams cause many people to rush. High-speed shooting modes let you snap dozens of photos in seconds. Large flash cards store hundreds of images, and you never have to stop shooting to rewind film and insert a new roll. Plus, knowing that you don't have to pay for film and development, it's easy to shoot and shoot very quickly, with little regard to composition or lighting—because if you take 100 pictures, at least one of them will turn out great, right?

And organizing your thousands of digitized images? Even with keywords and auto renaming schemes galore, this process takes serious time. So if you're naturally disorganized, the more photos you shoot, the more you shoot yourself in the foot.

Definitely Digital

Still, this column isn't about bashing digital photography. The benefits of digicams far outweigh the drawbacks.

Digicams can save you heaping piles of cash. Film costs money. So does development. Between the two, you can easily spend 34 cents to see one print from a film camera. I recently took nearly 1,000 photos using my digital camera—a project that would've cost me more than $300 using film.

What's more, after I returned home, I immediately reviewed the photos I'd taken, something that's not really possible with film. And I didn't need a darkroom to process my own photos. Photo purists who think that development is part of the art of photography (and who think that digital has ruined this aspect of the fun) haven't delved into the alterations that programs such as Adobe's Photoshop provide.

Between honing photo-editing skills and mastering digicams, digital photography introduced us to a new universe of image creation. There are tremendous advantages to using digital instead of film, but as you shoot, it pays to remember how to make new technologies work best for your projects. ∎

Invest In A Winner

Investment Management Software
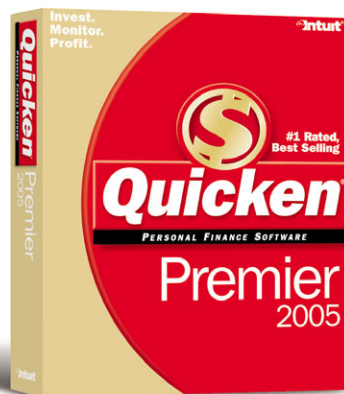
Investment management software is always a good idea. Such programs provide a mechanism for keeping track of the virtually endless selection of stocks and bonds, mutual funds and REITs, CDs and savings accounts, and various other investment vehicles that constitute a typical 21st century portfolio. Investment management software cannot guarantee double-digit growth, of course. But it can help average investors get the information needed to make the informed decisions that lead to optimum returns.

The market for investment software is dominated by a pair of familiar titles: Microsoft Money and Intuit's Quicken. Both products feature an assortment of finance tools in addition to their robust investment management capabilities. Standalone titles that deliver a comprehensive set of investment management functions are rare. Portfolio Record Keeper from Quant IX Software is one of the few that deserves consideration. The rest of the market consists primarily of downloadable shareware titles that focus on particular aspects of personal investing, such as tracking quotes or calculating returns. We did not consider these niche-oriented programs for our roundup.

Quicken Premier 2005

More than 20 years since its initial release, Intuit's Quicken remains one of the most popular and dependable software titles on the market. The program has empowered millions of computer users to take control of their financial situations by, among other things, monitoring investment accounts. Its intuitive presentation of complex figures and rates makes it easy for even inexperienced investors to chart their growth and losses.

Our experience with Quicken Premier 2005 did not start smoothly. Because of a minor installation hiccup that required us to manually uninstall a previous edition of Quicken, it took nearly half an hour to get Quicken Premier 2005 up, running, and registered. Fortunately, it took no time at all after that to familiarize ourselves with its intuitive interface. We found all of its investment-related features, which are not available in Quicken Basic or Quicken Deluxe, in the aptly titled Investment Center.

The center consists of three modules: Investment Alerts, which presents breaking news and up-to-date information about your favorite securities; Watch List, which tracks the current value of selected stocks, mutual funds, bonds, market indices, and other investment assets; and Investment & Retirement Accounts, which serves as a ledger of account values and growth rates. Helpful online instructions explain how to use the various features, and each module is tied into Quicken.com for convenient access to the latest market data. Online updates were completed in a fraction of a second, and the results displayed immediately on-screen. Our only complaint was a bug that kept Quicken in the background while multitasking with other applications.

We certainly had no complaints about the program's investment features. The best are located in the Investment & Retirement Accounts module. This is where Quicken lists the market value for each account, as well as its cost basis, total gain or loss (as a figure and as a percentage), and daily gain or loss (also as a figure and as a percentage). If that isn't enough information, you can click the Go To Full Portfolio button to access the current price of the asset as well as the total number of shares you own. Quicken allows you to sort your accounts in seven ways, including by industry and asset class. It also lets you configure the data to show historical performance, tax implications, asset allocation, and no fewer than nine other statistics about your financial status. And you can do all of this with minimal effort and only a rudimentary understanding of market economics.

Of course, Quicken Premier is more than an investment center. Your investment portfolio is integrated seamlessly with the app's other financial management capabilities. As such, you can sync a checking account with an investment account for automated

BUYING TIPS

As the year winds down, users can expect the 2006 versions of Quicken and Microsoft Money to reach the market soon. If history is any guide, each new release will feature a number of product improvements but maintain the feel and functionality of its predecessors. Buy the latest version if you have the option.
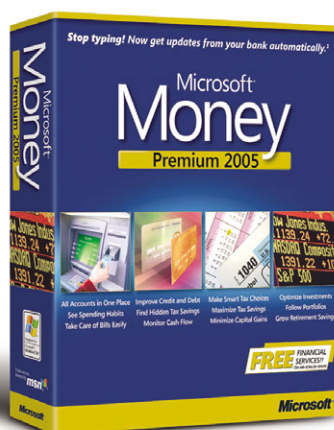
monthly stock purchases, for instance, or track the total net worth of your investment and savings accounts combined. The program's comprehensive money management capabilities have made Quicken the most popular personal finance program since its inception in 1984.

Quicken Premier is targeted primarily at home computer users. Small business users should consider upgrading to Quicken Premier Home & Business ($89.95), which adds features such as invoice management and vehicle mileage tracking to the program's many personal finance capabilities. In both cases, phone-based technical support is free if you're calling about installation, product defect, and data-conversion issues. You'll pay $24.95 per call for all other issues. Online support via live Web chat is free.

Microsoft Money 2005 Premium

Microsoft entered the personal financial management software market in 1991 for the same reason it entered many other markets: It recognized the potential for growth and saw that it was dominated by a single company, in this case Intuit. Fourteen years and almost as many software versions later, Microsoft has yet to capture a majority of the financial management software market.

That's surprising. What makes it even more surprising, however, is the fact that Microsoft Money is a top-notch product. Installation is a breeze, as the program updates itself automatically and guides you step-by-step through the setup process. It actually took less time to convert data from

the Quicken format to the Money format than it took to upgrade from Quicken Deluxe 2004 to Quicken Premier 2005.

The program itself boasts an intuitive interface that takes a task-based rather than account-based approach to comprehensive financial management. The program's six investing tools, all of which are also available in Microsoft Money 2005 Deluxe ($59.95), are gathered together on the Investing Home page. The tools include Portfolio Manager for tracking investment accounts; Portfolio Review, which features various lists, graphs, and charts for monitoring portfolio values and asset allocations; Asset Allocation, a how-to guide to building an investment portfolio that matches your investment goals; 401(k) Manager for tracking growth in a company-sponsored retirement plan; Capital Gains Estimator, which helps you estimate the taxes you would pay if you sold an investment; and Investing Alerts for up-to-date information about your favorite securities.

Microsoft deserves a hand for delivering an impressive suite of investing features. In addition to these six tools, Money 2005 Premium offers capital gains advising tools and automated Schedule D reporting capabilities. It also allows you to communicate with national brokerages and financial institutions for the purpose of tracking daily account balances, downloading monthly statements, and transferring funds between accounts. And we would be remiss if we failed to mention Money's array of personal financial management capabilities that can

Software Information

	Price	Company	Contact Information	URL
Quicken Premier 2005	$79.95	Intuit	(800) 446-8848 (650) 944-6000	www.intuit.com
Microsoft Money 2005 Premium	$79.95	Microsoft	(800) 642-7676 (425) 882-8080	www.microsoft.com
Portfolio Record Keeper 4.0	$89 (NAIC members) $139 (nonmembers)	Quant IX Software	(877) 275-6242 (262) 241-3990	www.quantixsoftware.com

Scorecard

	Performance	Ease Of Use	Installation	Documentation	Price	Overall Score
Quicken Premier 2005	4	5	4	4	5	4.4/5
Microsoft Money 2005 Premium	5	4	5	4	5	**4.6/5**
Portfolio Record Keeper 4.0	5	4	5	4	4	4.4/5

help you balance a checkbook, set up a budget, and handle other financial needs.

Inexperienced users may find the going more than a bit confusing at first, especially without the aid of a hard copy users manual. However, Microsoft's generous support policy, which provides free toll phone, email, and Web chat support, ensures that you can clear things up conveniently and at no cost.

Portfolio Record Keeper 4.0

Developed by Quant IX Software for the national membership of the nonprofit NAIC (National Association of Investors Corporation) investment club, Portfolio Record Keeper is a dedicated investment management program that can help you administer multiple portfolios of almost any size and degree of complexity.

This is software for the serious investor. This fact becomes apparent as soon as you create your first portfolio. The program gives you the option of entering only your current holdings for convenience or entering all historical investment transactions in chronological order for thoroughness and accuracy. The process is relatively straightforward, even without a printed users manual, but lacks the user-friendly guidance provided by Quicken or Microsoft Money. Of course, the experienced investors and professional money managers who use Portfolio Record Keeper don't need that type of handholding.

The program can accommodate any type of securities investment, including corporate bonds and investment club assets, and it provides more than 35 customizable report options to track such things as portfolio performance, realized gains and losses, capital gain distributions, paid commissions, projected cash flow, asset maturity, and asset diversification. Its best features, however, are those that manage multiple portfolios.

Portfolio Record Keeper is capable of supporting an unlimited number of portfolios at a time. That's impressive. Even more impressive is what you can do with those portfolios. The program lets you track the combined value of multiple portfolios, move or copy securities from one portfolio to another, compare assets of multiple portfolios, and digest data from

multiple portfolios to create single reports. Such capabilities allow serious investors to perform the type of detailed analysis that results in optimized returns. And it must work: the BetterInvesting Top 100, a record of the top 100 stocks held by NAIC members, has outperformed the S&P 500 by 2.3% over the last 10 years.

So what's the catch? As serious investors know, it takes money to make money and Portfolio Record Keeper is no exception. The product is available for $89 to NAIC members or $139 to nonmembers. Annual NAIC membership fees are priced at $50 or $80, depending on the options you choose, and provide full access to the organization's Online Premium Services. These services work in conjunction with Portfolio Record Keeper, enabling you to download earning figures, dividend yields, and other fundamental investment data that you can use to sort, filter, and evaluate your portfolio holdings. All users get six months of free phone support; after that, it costs a relatively reasonable $29 per year.

A Winning Investment

In the end, you could do much worse—and no better—than these three programs. We chose Microsoft Money 2005 Premium as the Smart Choice because of its broad financial management capabilities and flawless performance, which gave it a slight edge over the very intuitive Quicken Premier 2005 and the fiscally robust Portfolio Record Keeper. So take your pick: The only way you'll lose is by not investing in one of these programs. ▌▌

BY JEFF DODD

B U Y I N G   T I P S

Annual upgrades are great for antivirus utilities but are overkill with investment management software. To get the optimum value from your investment management program, wait at least a couple of years between upgrades.
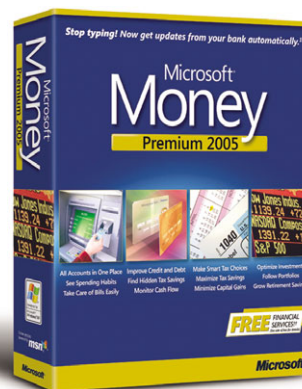
September 2005
Smart Choice

Microsoft Money 2005 Premium

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www.oo-software.com

If you frequently store sensitive personal or company data on your PC, you may be exposing that data to theft or invasion—even if you erase it. When you erase files from a hard drive, Windows removes the pointer to that data but does not actually remove the information. Instead, the data remains on the drive until you overwrite it with other files. (That's why unerase products can recover so much information.) To make matters worse, Windows breaks each file into fragments and stores its data randomly in chunks all over a drive. Consequently, it can take many months (or even years) before you overwrite every single fragment that makes up a deleted file.

O&O SafeErase gives you a much higher level of erasure by overwriting all the fragments of a file with random data. You choose one of five levels of overwriting, from one time (lowest security setting) to 35 times (highest security level). At the highest level, it is virtually impossible for even professional unerase products to restore data deleted from drives.

Menu-Driven Simplicity

When you install SafeErase, the program adds new options (Securely Empty Recycle Bin and Securely Erase, respectively) to the Recycle Bin and Windows context menus. To access the options, right-click the Recycle Bin icon on your Desktop or any file or selected group of files in Windows Explorer, on the Start menu, or on your Desktop.

When you select one of these options, SafeErase identifies each file's fragments and begins to overwrite them. The process is quick, although the time required increases if any of the deleted files are large. In our tests SafeErase wiped four application files (approximately 30MB of data) at medium security in less than a minute. As a bonus you can continue to work while O&O does its job in the background.

SafeErase can also perform its magic when you move files from one folder to the next, and it can wipe unused disk space, ensuring that any files you erased previously but have not yet overwritten are also eradicated.

SafeErase also incorporates a TotalErase option that completely wipes out your hard drive and system partition. (To access this select TotalErase from the O&O Software folder on your Programs or All Programs menu.)

Handle With Care

Both SafeErase and TotalErase are products to be used with caution: Once the data is gone, it is really gone. Nevertheless, if permanent deletion is important to you (in particular if you are planning to sell or trade your PC), SafeErase is an excellent tool. O&O Software recently released the results of a study in which it purchased 200 used, completely empty hard drives and attempted data recovery. Testers were able to recover data on 70% of the systems. In total, technicians restored 3.3 million files, including 40,000 Word documents, approximately 15,000 Excel spreadsheets, and nearly 50 email mailboxes containing their entire message stashes. Such sobering statistics underscore the vulnerability of data we presume to be deleted.

SafeErase is so easy to use that we doubt you will need live support. However, if you are a support junkie, be forewarned that the company is located in Germany, and there is no toll-free phone number. (There is an email support option.) Additionally, installation can be a bit confusing. The CD installs a trial version by default and does not request a product ID number. Further confusing the issue, there is no SafeErase program option on the Programs/All Programs menu after installation, making it appear that the program has not been added when it actually has. Immediately after installation, open the Change Security Settings option (located on the O&O Software option in Programs/All Programs on the Start menu), and you will have the opportunity to provide your product ID key, register the program online, and adjust your security settings. After installation, you will access SafeErase from the menus mentioned above unless you are changing your security settings. ∎

BY JENNIFER FARWELL

Scorecard
Performance 5
Ease Of Use 5
Installation 3
Documentation 4
Price 5
Overall Score 4.4 / 5

Security

Protect Your Wireless Network

Wi-Fi Defense

$29.95
OTO Software/SpyderSoft
(888) 212-1992
www.otosoftware.com
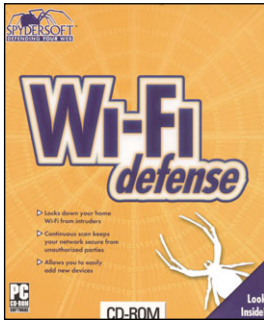
Scorecard

Performance 4
Ease Of Use 5
Installation 5
Documentation 4
Price 5
Overall Score 4.6 / 5

If you have a wireless home network, you should have security measures in place, or you risk having a malicious intruder invade your PCs to steal information, damage hardware, and more. Such a product is SpyderSoft Wi-Fi Defense, a program that uses a patent-pending technology to scan your wireless home network and protect it from unwanted intrusion.

The great appeal of Wi-Fi Defense is its simple, one-click interface, which makes it easy to manage your network. The product interacts with your router, making decisions about access based on information you provide and instructing the router how to respond.

Wi-Fi Defense is largely wizard driven; when it detects the presence of a new device, it walks you through the process of accepting that connection (marking it as a friend) or disabling it (marking it as a foe). Additionally, you can monitor network usage, a handy tool for parents who want to control their children's online time.

The developer of Wi-Fi Defense was OTO Software, so you can purchase it online from the OTO site. However, in 2004 OTO Software entered into an agreement with TOPICS Entertainment to publish its retail edition under the SpyderSoft brand, which is how you will find it labeled if you purchase it at your local software retailer.

Wi-Fi Defense does not support every router made (it supports all major brands), but the company states it is constantly updating the list of compatible hardware. During installation you can test your router, and if Wi-Fi Defense does not recognize it, you can download an updated driver library. If Wi-Fi Defense still does not recognize your hardware, you can send a message to OTO requesting that it add support for your router. However, to ensure compatibility, we recommend you download and run the 14-day free trial before you purchase the product. ▌▌

BY JENNIFER FARWELL

Multimedia

Easy Movie Magic

autoProducer 4

$69.95
muvee Technologies
(800) 406-4966
www.muvee.com

Scorecard

Performance 3
Ease Of Use 5
Installation 5
Documentation 4
Price 4
Overall Score 4.2 / 5

If you are enamored of dazzling, artistic video effects, muvee autoProducer 4 is probably not for you. However, if you want a reasonably priced program that can turn your clips or images into an engaging multimedia extravaganza, look no further.

autoProducer 4 is the latest version of this user-friendly program, and it is packed with styles that determine your video's pace and enhance it with transitions and other effects. autoProducer 4's styles differ widely, giving you a broad range of options. Additionally, autoProducer 4 incorporates a new feature, magicMoment, that lets you pick and choose frames to include or exclude.

autoProducer is simple to install and use. You import video clips and/or still images, choose an audio track such as a song (one without digital rights restrictions, of course), preview and select a style, and tell muvee how long to make your masterpiece. autoProducer does the rest, adding scene transitions, credits, and other niceties. The interface is geared toward novices, with simple slider controls and well-marked buttons for all options.

A bonus of this program is its system requirements (1GHz Pentium or equivalent with MMX support, 256MB of memory; 16MB video memory, and Windows XP with DirectX 9.0 or higher), which are not as strenuous as more advanced video-editing programs. In this new release, you can also work in full-screen mode, although the preview window is still undersized.

The main downside is output quality. It renders the finished video quickly but does not always produce optimum results. Download the free trial and try it out. If you're not satisfied with the results, look to a different program. (You can also output the file to DV and render it using a video converter, but this involves additional effort and expense.) ▌▌

BY JENNIFER FARWELL

Fast Food

Recipe-Planning Software Makes Life Easier

Rarely do you think of food when you think of computers, but with the right software, meal planning and computing could go together like peanut butter and jelly. There are a variety of recipe and meal-planning programs available. We compared the primary features of two of the most popular programs, DVO Enterprises Cook'n With Pillsbury ($24.95, download, $29.95, boxed; www.dvo.com) and Radium Technologies Living Cookbook 2005 ($29.95; www.livingcookbook.com). DVO Enterprises' Cook'n

Cook'n with Pillsbury
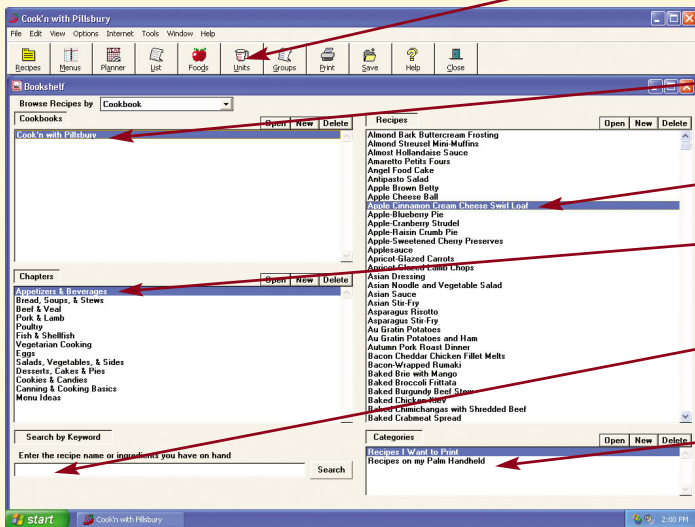
Shortcut buttons at the top of the screen let you access other program features, such as menu planners, grocery lists, and ingredient measurements and conversions.

If you have installed more than one Cook'n title, you can select from a list of installed cookbooks.

Double-click to select a recipe from the list.

Once you've chosen a cookbook, click to select a chapter. Available recipes from that chapter will be listed in the right pane.

To find a recipe that uses an item you have on hand, enter the ingredient here and click the Search button.

DVO Enterprises' Cook'n titles are Palm-compatible for convenient shopping and cooking.
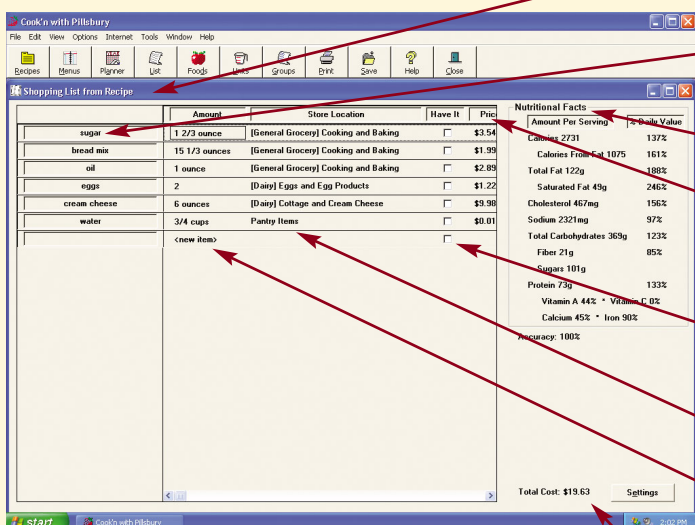
When you click the List button while viewing a recipe, the Shopping List From Recipe window appears.

Each of the ingredients you need for the recipe appears in on the left side of the screen.

Nutritional facts appear on the right side of the screen.

The Cook'n software lets you enter the average price you pay for an ingredient. The program calculates the price, according to the amount you will use, so that you can create a meal budget.

Select the checkbox next to an ingredient if you already have it on hand. The software will remove the ingredient from your grocery list.

Grocery items are organized according to store location.

The program lists the amount you need of each ingredient. You can also adjust the recipe size to make fewer or more servings. The program will make the calculations and display the updated amounts in the Amount column.

The total cost to prepare the meal is listed in the lower-right corner of the screen.

by Kylee Dickey

series offers not only the Pillsbury title but also many others, such as Cook'n With Betty Crocker, Cook'n & Grill'n, Cook'n Quick & Easy, and Cook'n With Diabetes.

Living Cookbook 2005
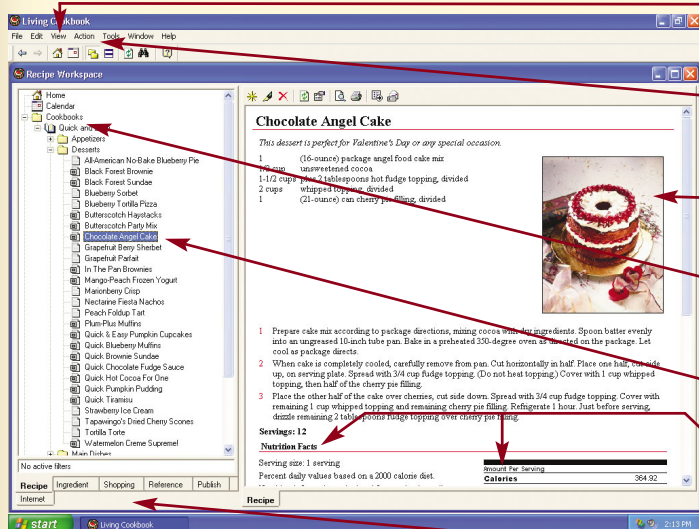
Click View and View Launchpad for a well-organized guide to the program's features.

Click Action, Other Actions, and Add To Grocery List to add the recipe's ingredients to your shopping list.

A color photograph appears with each recipe in the right preview pane.

In the program's left pane, click the plus (+) sign next to a folder to expand it and view the enclosed folders or recipes.

Click the title of a recipe that you would like to view. The recipe card will appear in the right pane.

You can see the nutritional information in the preview pane.

Click the tabs at the bottom of the screen to access the program's other features, such as shopping lists.
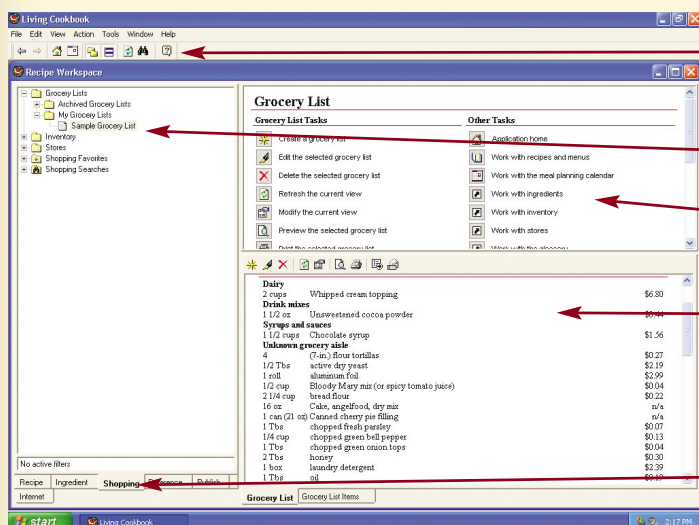
The shortcut buttons here guide you through many of the advanced Grocery List features.

Browse to find the desired grocery list.

Click here to manage what you have at home vs. what you must buy.

Items you've added to your grocery list appear to the left, and the price for each item appears to the right. The software calculates the price based on the amounts you will use. You can also adjust recipes to make fewer or more servings.

After you click the Shopping tab, your grocery lists will appear in the left pane.

IMPULSE ITEMS

Cool Stuff For $25 Or Less

Compiled by Joshua Gulick

See it, like it, buy it. Impulse Items are products that quicken your pulse and capture your attention but won't make you dig too deep into your wallet. Check these pages each month for the latest interesting and inexpensive computing items we've run across.

AQUAZONE FISH PACKS

When we last turned our dull screen saver into a saltwater fish tank in our December 2004 Impulse Items article, Allume's Desktop Garden ($19.99; www.allume.com/store) didn't yet support Fish Packs, which add turtles, sharks, goldfish, jellyfish, and other sea life to your aquarium. The software acts as a screen saver but also lets you view (and feed) the fish. When you visit the virtual fish store, you can buy any of these add-on packs for $9.99. Allume's store also offers the Fun Stuff Pack ($9.99), which includes a submarine and other unusual items that zip around your virtual aquarium.

"CREATE YOUR OWN WEBSITE"

Sooner than later, someone will ask you (with an incredulous and probably irritating tone): "What do you mean, you don't have your own Web page?" If you want to keep up with the digital Joneses, but don't have the first clue about building Web sites, read this book before you plug in. "Create Your Own Website (Using What You Already Know)" ($19.99; www.samspublishing.com) by Scott Mitchell includes a CD that has several Web site templates and an HTML (Hypertext Markup Language) editor that will let you customize the template or build your own page. The book walks beginners through each step.

FLEXIBLE DOCK

If you don't keep up with the latest Apple news, you may not have heard of the iPod shuffle, a small cousin of the iPod. Unlike the larger digital music players, the new Apple iPod shuffle uses flash memory and doesn't include a screen. It also doesn't include a USB cable as it has a built-in USB port. Thus, most users load songs onto the shuffle by plugging it into the nearest USB port. However, the shuffle often blocks any nearby USB ports when plugged in. DLO released the Flexible Dock ($19.99; www.everythingipod.com), which acts as a sturdy, but bendable USB adapter that transfers data and power to your favorite techie's new toy.
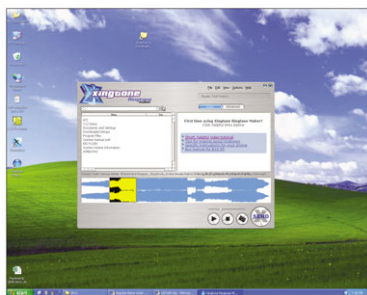
XINGTONE RINGTONE MAKER

As if standard mobile phone ringers weren't already attention-shattering, phone services now let users buy and download clips from popular songs. The songs are cheap (for now), but you can quickly inflate your phone bill by buying popular ringtones. If your favorite techie has caught the music ringtone wave, give her bragging rights with Xingtone Ringtone Maker (www.xing tone.com). Thanks to this software, she can save her cash and create custom ringtones from her own music. She'll load her digital song into the program, listen until it reaches the right part, and then record it into the ringtone format. The program sends the song to the phone. Try Xingtone Ringtone Maker free or buy it for $19.95.
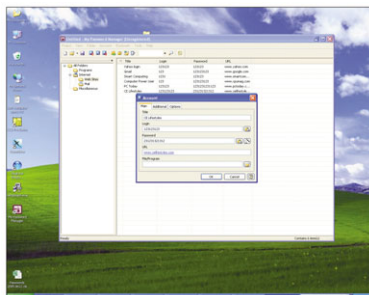
MY PASSWORD MANAGER

If you're like us, you forget passwords about two minutes after you create them. Instead of scribbling the key to your new account on the nearest bit of paper, enter it into My Password Manager (www.mypasswordmanager .com), which tracks passwords for applications (including email applications) and Web sites. In fact, you can even add passwords for offline uses (such as ATM cards), but you'll find that it's most useful online. The program can automatically enter your login name and password when you visit Web sites or open email applications. Try My Password Manager free or buy it for $19.95.
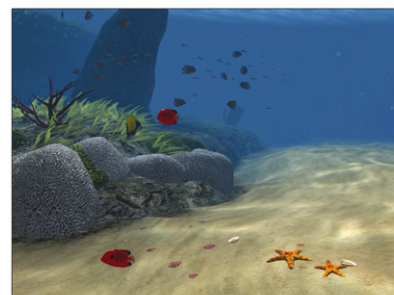
OCEAN DIVE

Call us digital fish fanatics if you must; we like both Allume's Aquazone and SCS Software's Ocean Dive (www.ocean dive.com). Although Ocean Dive is a screen saver, it offers a different environment than Aquazone: The screen saver takes you underwater and explores the ocean floor. Of course, screen savers these days usually boast as many features as a luxury car, and this program is no exception. One of the most unusual features: You can direct the camera as though you were swimming. You can chase fish, explore a shipwreck, or simply sit and watch the ocean life swim by. Try OceanDive free (the trial won't let you "swim") or buy it for $19.99. Keep in mind that you'll need a decent video card (with at least 64MB of memory) to handle these graphics. Try the trial first if you're not sure your computer has enough graphic power.

NOTEBOOK CLEANING KIT

Notebooks pick up dust, dirt, and other crud just as quickly as desktop computers, but if you've ever looked for notebook cleaning equipment on computer store shelves, you know that most cleaning supplies are meant for cleaning PCs. If you're looking for a notebook-only package, try the Memorex Notebook Cleaning Kit (www.memorex .com), which includes a small bottle of OptiClean fluid, a couple of cleaning cloths, and a special LCD (liquid-crystal display) cleaning cloth that will keep your notebook screen dust-free. The notebook kit also has a special micro-brush device (which you can run all over the notebook to give it a deep clean). Memorex doesn't sell the cleaning kit from its Web site, but we've seen it at online retailers for $9.99.

Windows XP

Don't Let Windows XP Harass You

It's great to be connected to the big wired world, and in theory, it's even better to have an operating system that offers tools and advice for navigating that world. But Windows XP is so intent on providing guidance—or letting others provide it—that it can be intrusive, annoying and, in at least one instance, downright unsafe.

Shoot The Messenger Service

Windows XP's Messenger Service—not to be confused with Windows Messenger, Windows' built-in instant messaging program, which we'll deal with in a bit—was designed to give network administrators a way to notify users about network activities. For example, if a network administrator is about to shut down a particular server for maintenance, she could use the Messenger Service to send an appropriate pop-up message to every user affected.

If you're reading this magazine, you probably don't have a network administrator, which is one reason you don't need the Messenger Service. Another is that online evildoers have figured out how to hijack the messenger service to send you pop-ups, viruses, and spam. If you're a home user and you've received an advertisement—especially an advertisement made to look like a system warning—in a window titled Messenger Service, you're being harassed, and that's another excellent reason to disable the Messenger Service.

To find the console, click Start and go to Control Panel. If your Control Panel is displayed using the Category View (WinXP's default), click Performance And Maintenance, select Administrative Tools, and double-click Services. If you're in Classic View, double-click Administrative Tools and then Services. In the Services Console, scroll down the Name list to find Messenger and double-click it. In the dialog box that appears, select Disabled under Startup Type. Then click Stop and
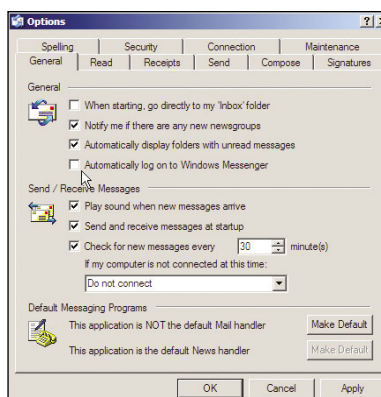
It's not enough to keep Windows Messenger from launching when you start Windows; you also have to keep it from starting when you launch Outlook Express (above) or Outlook (2002 or earlier).

Disable the Messenger Service via Windows XP's Service console to help put an end to pop-up ads disguised as dialog boxes.

OK, and close the Services and Administrative Tools windows (unless you also want to shut down WinXP's Error Reporting service—read on).

Messenger shouldn't bother you again. If you've received, and especially if you've responded to, any messages delivered via the Messenger Service, there's an excellent chance you have spyware or malware on your system. To check, visit Microsoft's Web site (www.microsoft.com) where you can download the Microsoft AntiSpyware Beta software and run the Malicious Software Removal Tool, both of which we've documented in earlier articles.

Shoot Windows Messenger, Too

Microsoft is apparently so eager to get you to use its Windows Messenger instant messaging client that it sets the client to automatically load whenever you start Windows. And if you shut it off then, it automatically reloads when you start Outlook or Outlook Express. In fact, even if you've never used Windows Messenger—and you've never done anything about it—you'll see the Windows Messenger icon in your System Tray.

To make sure Windows Messenger doesn't start when Windows starts, right-click the Windows Messenger icon in your System Tray and choose Open from the pop-up menu. Go to Tools and Options; click the Preferences tab. Under General, deselect Run This Program When Windows Starts and click OK. Close Windows Messenger, and to get rid of the System Tray icon, right-click it and choose Exit.

Next, make the appropriate change to your email program. In Outlook Express, choose Tools and Options. On the General tab, deselect Automatically Log On To Windows Messenger, and click OK. In Outlook (versions 2002 or earlier), choose Tools and then Options. Click the Other tab, deselect Enable Instant Messaging In Microsoft Outlook, and click OK.
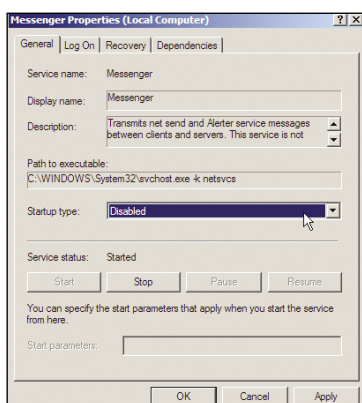
Put An End To Error Reporting

By now you're probably all too familiar with WinXP's error reporting service, which prompts you to send a report to Microsoft every time one of your applications crashes.

In theory, error reporting seems like a good idea. After all, the more information Microsoft has about why an application crashes, the more Microsoft can do to solve the problem. In practice, though, error reporting adds little more than a couple of extra steps to every crash recovery episode. (If you have a dial-up connection, it adds several minutes to every episode, as well.) Plus, on the rare occasions that the error reporting process recommends corrective action, the instructions aren't very clear and are often incomplete: You're typically directed to a particular Web page, where you're left to fend for yourself.

If you'd like to stop participating in the error reporting program, click Start, right-click My Computer, and choose Properties. Click the Advanced tab, and at the bottom of the dialog box, click Error Reporting. You have a few options. You can choose Disable Error Reporting; if you do, you should probably leave But Notify Me When Critical Errors Occur selected. You can choose Enable Error Reporting, but uncheck Programs to report only errors with the WinXP. Or you can leave Programs checked, click Choose Programs, and use the dialog box that appears to add specific programs to the Report and Do Not Report lists. Of all these options, the first is probably the best way to eliminate the annoyance of error reporting, while also eliminating the chance that you'll be dangerously oblivious to errors when they happen.

Stop The Bubble Machine

Remove unwanted icons. Take a tour of Windows. Get a .NET passport. Write files to a CD. From the moment you start using WinXP, the System Tray flashes all kinds of requests in the form of callout bubbles. And, like a spoiled 5-year-old kid, it repeats many of the requests no matter how many times you say no.

You can stop the callouts with a free download from Microsoft called Tweak UI. To get Tweak UI, surf to www.microsoft.com/windowsxp /downloads/powertoys/xppowertoys.mspx. In the
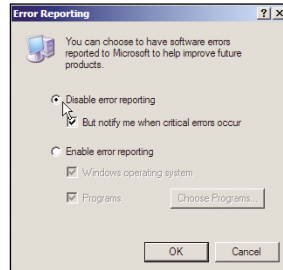
You can disable Error Reporting altogether or have Windows prompt you for reports only when certain programs go haywire.

Download bar on the right side of the screen, find Tweak UI (not Tweak UI For Itanium) and click the TweakUI.exe link. Click Save to save the download to your Desktop; double-click the file on your Desktop (TweakUIPowertoySetup) to start the installation wizard and install Tweak UI. Note, however, that Microsoft does not support Tweak UI or any other PowerToy.

With Tweak UI installed, click Start and choose All Programs, PowerToys For Windows XP, and Tweak UI. On the left side of the Tweak UI display, find and select Taskbar And Start Menu. On the right side of the screen, under Settings, deselect Enable Balloon Tips. Click OK.

With this change made, you won't see any more callouts. (Oddly, however, you'll still hear the popping noise that once accompanied the callouts. You can get rid of it if you like, but we don't recommend doing so, as you'll also be eliminating the sound from other Windows system notifications.)

The chief caveat to eliminating callouts is that even your automatic Windows Update callouts will disappear—not a real problem if you've set Windows to download and install updates automatically, but a little scary if you've set it to download only (so you can install at your convenience) or to notify only (so you can download and install at your convenience). If either of the latter two are the case, you can rely on visual cues to know when updates are available: If you're using WinXP SP1, you can wave your mouse pointer over the Windows Update icon in the System Tray to see whether you have updates to install. If you're using WinXP SP2, the Windows Update icon will appear in the System Tray.

The bonus to stopping callouts is that you now have Tweak UI, which you can use to customize WinXP in other ways. Run through Tweak UI's options for changing the look and behavior of your mouse, Desktop, Taskbar, and more. You're bound to find ways to fix at least one or two other things that have been driving you nuts. ❚❚
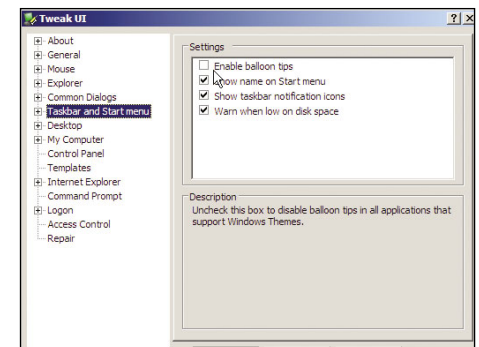
If you're seeing balloon callouts in your sleep, eliminate them using Tweak UI, a free download from Microsoft.

BY MARK SCAPICCHIO

Manage Windows 98 Virtual Memory

Virtual memory is an important contributor to Windows 98's reliability and performance. But because it operates largely behind the scenes, virtual memory's role isn't always well understood. We'll explore Win98's virtual memory—what it is, how it works, and how to customize it.

Virtual Memory 101

To run programs, you need memory, and the more programs you run, the more memory you need. In the days of Win98, though, RAM was expensive, so most PCs didn't have much of it. (16MB to 32MB was typical.) Though RAM was relatively hard to come by in most PCs, hard drive space was considerably more plentiful (and often more cost effective to add to a system). And in this context, virtual memory comes into play.

In contrast to physical memory—the actual RAM chips installed in your system—virtual memory is hard drive space that's been specially configured to look and act like RAM. By simulating physical memory, virtual memory supplements it.

How It Works

When the amount of memory Win98 needs exceeds the amount that's available, data in RAM you haven't recently accessed is copied to virtual memory on the hard drive. This is called **paging**, and the RAM it frees up is made available for additional programs. Whenever an application needs data that has been offloaded to virtual memory, the data is copied from virtual memory and placed into RAM, usually displacing another piece of data.

Unlike RAM, you can't see virtual memory, but you can see evidence of its work. When you bring a minimized or background application back to the fore or switch among open applications, you may notice your hard drive activity light come on. This drive activity usually represents Windows copying data between physical and virtual memory. You've probably also noticed that your system tends to slow down when this happens. Although virtual memory lets you run more programs, it doesn't do anything to improve performance. In fact, the more virtual memory you use, the lower your performance is

Before switching to a fixed-size swap file, use Windows 98's built-in System Monitor utility to see how much virtual memory you'll need.

likely to be, as accessing the hard drive takes considerably longer than accessing RAM.

Win98 uses a file named Win386.swp as virtual memory. This is known as the page file, but it's also referred to as the swap file because Windows uses it to swap data. The swap file is normally located in the C:\WINDOWS folder, and it can grow and shrink as the system's need for virtual memory changes. When you first start Windows, the swap file will generally be small, but it will increase as you run more applications than can fit in your RAM.

Win98 normally manages virtual memory settings on its own and adjusts the size of the swap file as warranted. For many users, this default behavior is more than sufficient, but there are situations when modifying the default setting may help a system run more smoothly. To access Win98's virtual memory settings, click Start, Settings, and Control Panel, and then select System. Click the Virtual Memory button. When you click Let Me Specify My Own Virtual Memory Settings, you can change the location of the swap file, specify a minimum and/or maximum swap file size, or disable virtual memory altogether.

Relocating The Swap File

Although Windows enlarges the swap file as it needs more virtual memory, the swap file can't span more than one drive, so if your hard drive runs low on space, the swap file can become constrained, and you may experience error messages.

If you have more than one hard drive partition, you can reduce the likelihood of running low on hard drive space for virtual memory by moving the swap file to the partition with the most free space.

Relocating the swap file may be beneficial even if you have abundant hard drive space. If you have more than one hard drive (not a single drive with two partitions), speed things up by putting the swap file on a separate drive than Windows and the rest of your apps. This can improve performance by letting Windows access applications and virtual memory from different drives at the same time. Moreover, if you have two drives and one is faster than the other, placing the swap file on the faster drive may further improve system performance.

To move your swap file, select the hard drive you want it on from the Hard Disk drop-down menu in the Virtual Memory dialog box. When
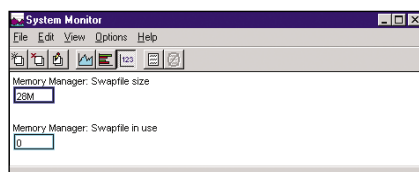
you move the swap file from its default location in the C:\WINDOWS folder, it will always be placed in the root folder of the drive you selected.

When relocating your swap file, there is one important caveat: You should never put it on a removable or external hard drive. Because Win98 can't prevent you from disconnecting or ejecting that drive, doing so will cause your system to crash or hang and almost certainly result in the loss of data.

Make The Swap File A Fixed Size

Windows isn't always efficient in how it handles virtual memory. Even when there is ample free space to create and maintain a large swap file, Windows will reduce the size of the file to the minimum needed and enlarge it again later. This resizing takes time and can have a negative impact on performance.

Many people have hard drive space to burn. If this includes you, making the swap file a fixed size may speed things up by eliminating the need to constantly resize the file. You can convert the swap file from dynamic to fixed size in one of two ways: Either specify the same amount for the minimum and maximum values or enter a minimum size in excess of the amount of virtual memory you need and set the maximum size to none.

How Much Is Enough?

Conventional wisdom says you should have two to three times virtual memory as physical memory. By this logic, someone with 256MB of RAM would need a lot more virtual memory than someone with only 64MB. But virtual memory is a substitute for physical memory, so the two have an inverse relationship. The more physical memory you have, the less virtual memory you need.

The appropriate amount of virtual memory depends on your own habits. If you have the room, making your swap file several times the size of RAM on your system won't do any harm , but if you want to determine your virtual memory needs more empirically, use System Monitor.

System Monitor isn't installed by default, so you will probably have to install it. Click Start, Control Panel, and Add/Remove Programs. Click the Windows Setup tab and scroll to System Tools. Select System Tools and scroll on the right until you see System Monitor, select the box next to it, and click OK. You'll be prompted to insert your Win98 CD or point to the folder where the Win98 CAB files are (often C:\WINDOWS\OPTIONS\CABS).

Once you've installed System Monitor, find it by going to Start, Programs, Accessories, and System Tools. We want to know about swap file size, so click Edit, Add Item, and Memory Manager. Scroll down to Swapfile size, highlight it, and click OK. Click View and select Numeric charts, which will dispense with the graphs and make the information easier to read.

Now that System Monitor is on the job, start all the applications you use and keep open. After you launch your programs, check System Monitor's Swapfile size value to see how large it's become. Time is of the essence—more virtual memory is used while launching apps than after they are loaded. After about a minute, Windows will start shrinking the swap file, and the number System Monitor displays may no longer accurately reflect the maximum amount of virtual memory you used.

Swap File Fragmentation

A fixed-size swap file can reduce hard drive fragmentation. A swap file can become fragmented because when writing files, Windows doesn't do so in contiguous space.

Because the swap file is relatively large and only a small part of it is accessed at once, a fragmented swap file doesn't have a noticeable effect on performance. The constantly changing size of a dynamic swap file, on the other hand, can contribute to overall disk fragmentation.

Setting a fixed swap file size may not be enough to reduce fragmentation, though, because when you defragment your hard drive, the swap file is not included in the process. Many third-party defragmenters can move the swap file and even place it at the beginning of the drive to improve performance.

Disabling Virtual Memory

Even if your system has lots of RAM installed, it isn't advisable to click Disable Virtual Memory as Windows sometimes tries to use virtual memory even if some physical memory is available.

A safer option is to add the line Conservative SwapfileUsage=1 to the [386Enh] section of your System.ini file, which is in the C:\WINDOWS folder. (Before making this modification, back up your System.ini file.) ▮▮
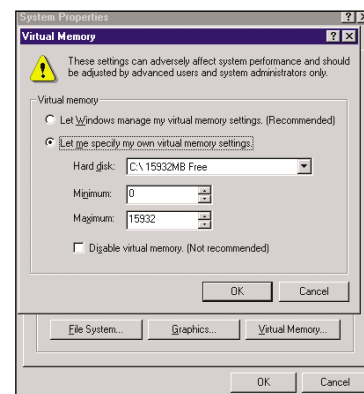
You can override Windows 98's default virtual memory settings to change the location or size of the swap file.

BY JOSEPH MORAN

Compiled by Kyle Schurman
Graphics & Design by Lori Garris

Smarty Pants
E-textiles Help Doctors & Patients

Modern medical advancements continue to amaze and impress. Rarely does a week go by without a story appearing in the news that discusses a new medical breakthrough.

Researchers at Virginia Tech say e-textiles will fit into two categories: wearable computers, which are e-textiles that measure motion and other information about the user and wirelessly send that data continually to a network; and sensor networks, which are e-textiles that must collect data over days or weeks, operating reliably with no maintenance because the wearers (such as soldiers) work in remote locations.

Smartex, an Italian company, is one of the world's leading research companies concerning e-textiles. Smartex has worked on several projects, including smart seats in automobiles where the seat adjusts to provide support to match the passenger's posture, thereby maximizing the effectiveness of the airbag, based on the passenger's position in the seat at the time of a crash. Other Smartex projects focus on areas such as sports medicine, rehabilitation, and health monitoring. In the future, e-textiles could work with technologies such as wearable wireless communications and virtual reality simulations.

Health monitoring, however, appears to be one of the most promising applications. Smartex's WEALTHY (wearable health care system) will provide some amazing benefits to patients, giving them incredible flexibility in their day-to-day lives while keeping tabs on their health, and to doctors, giving them far more information with which to diagnose illnesses.

Overview Of The WEALTHY System

The WEALTHY system from Smartex is designed specifically to monitor heart disease patients during and after rehabilitation.

1 Once the e-textile's sensors read the data, it's transmitted to the hospital's computing system, either by a wireless connection—for patients at the hospital—or via a modem and an Internet connection—for remote patients. With the data available through the hospital's main computer system, doctors can access the data at any time and through many means, as shown here.

Hospital's Central Monitoring System

Ethernet Network

Laptop With Modem

| Wireless Connections | Wired Connections | Patients Wearing E-textiles | Doctors | PDAs/Tablet PCs/Wireless Laptops | Networked Desktops | Modem |
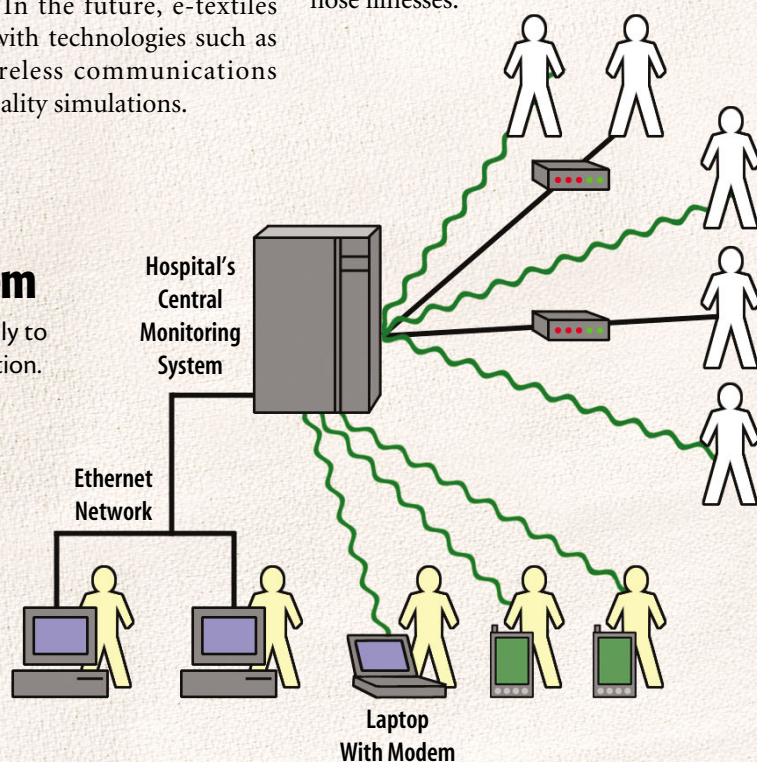
Inside Smart Fabric

Although every e-textile system under development is a little different, most e-textile systems make use of digital signals, carried through insulated wires embedded between the individual threads of the fabric. Typically, the insulated wires will be placed in groups of four, allowing for each of the four busses required to carry most types of signals. Because of the types of wires used in the e-textiles, they look and behave very much like normal thread. (This example shows e-textiles under development at Virginia Tech; several companies and universities are developing types of e-textiles.)

Piece of e-textile magnified, showing individual wires embedded between the individual threads

Each insulated wire is about 0.03 inches in diameter, about equal to that of an individual thread

Piece of e-textile, with wires shown in gold and gray stripes and regular cloth and threads shown in blue

Electrodes

Breathing Sensors
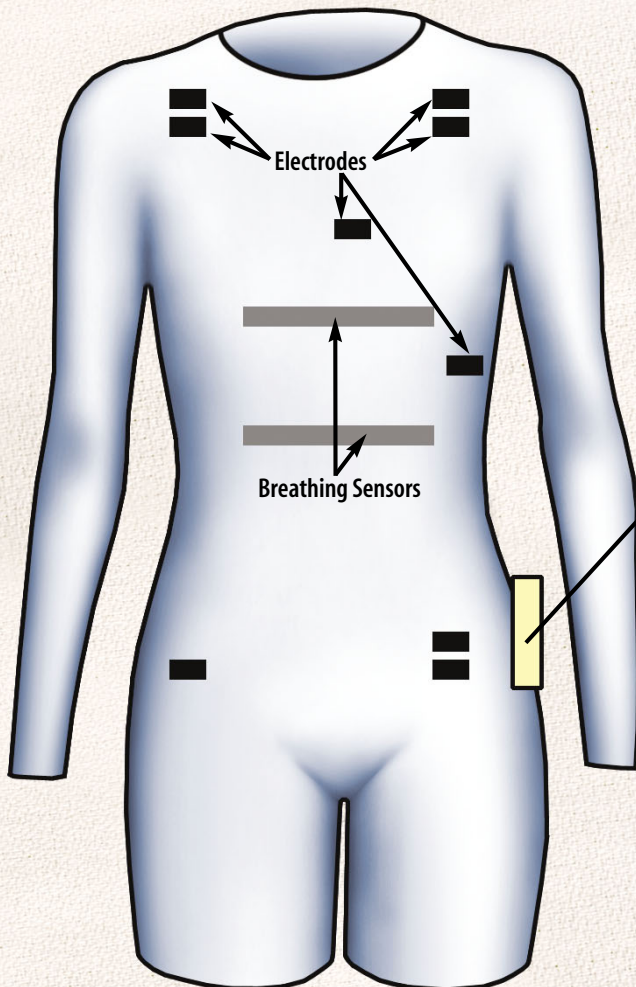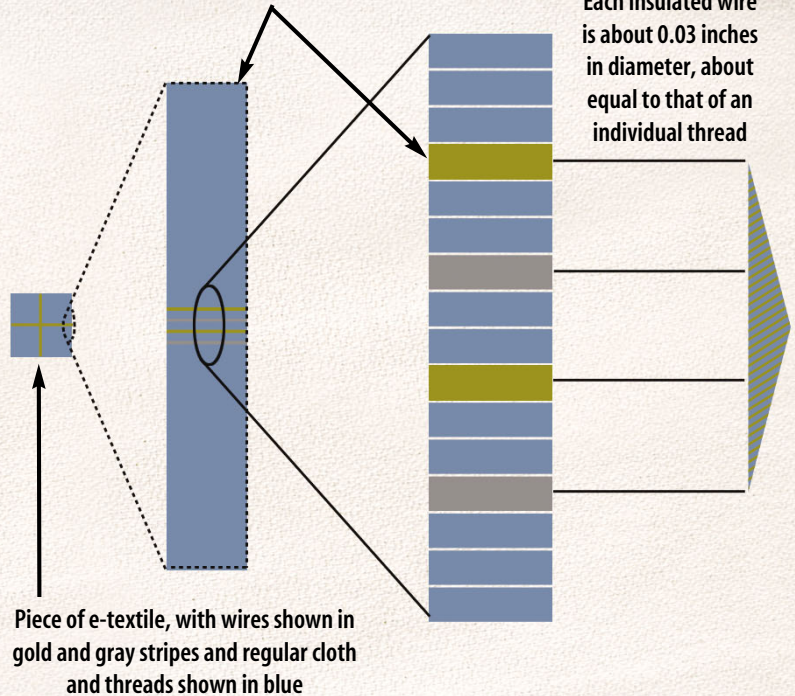
2 With the WEALTHY system, a portable module called the PPU (portable patient unit), which the patient wears on his belt, receives the signals from the sensors and electrodes built into the e-textile.

Portable Patient Unit

| Signal Conditioning | Converter | Signal Processing | GPRS |
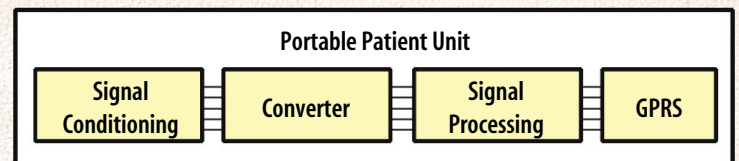
3 The sensors and electrodes use the wiring built directly into the e-textile to send the data to the PPU.

Movement Sensors
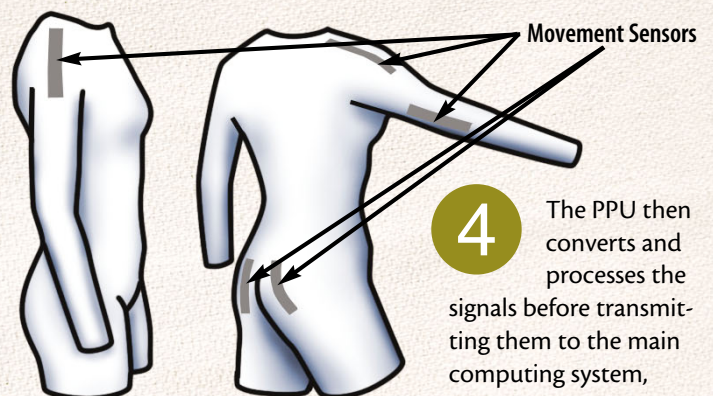
4 The PPU then converts and processes the signals before transmitting them to the main computing system, using GPRS (General Packet Radio Service).

Rounding Up LCDs

The New View From Your Desktop

A new standard of visual clarity is headed for your Desktop, embodied in a new generation of displays. That familiar CRT (cathode-ray tube) with its bulky backside will likely give way to a sleek, flat-screen LCD (liquid-crystal display).

The new screens consume less desk space and deliver far sharper images. We wanted to document what's new and different and take a glimpse at the future through the lens of LCDs now available. Issues we found highlight choices consumers will face when it's time to upgrade.

Our Approach

We asked five LCD manufacturers, Samsung, Sharp, Sony, ViewSonic, and WinBook, to select a single-utility LCD from their product lines. Participating companies each lent us one midrange unit of their choice meant to address most home computing needs. Three chose units with 17-inch diagonal viewing area, while a fourth sent a 19-inch screen. For fun and insight, we added a giant, HD (high-definition)-ready TV computer monitor with a 32-inch diagonal viewing area from WinBook.

We wanted to see how LCD monitors are different from the CRTs. The trials were deliberately simple, taking on basic tasks home users often face.

To test color and contrast range, we visited famous art Web sites, including New York's Metropolitan Museum Of Art (www.metmuseum.org) and Paris' Louvre (www.louvre.fr) to see how each screen displayed works of art.

The Big Picture

One question many users have is how LCDs produce images that are generally much sharper than the old CRTs in such a narrow profile.

Think of an LCD as a sandwich made up of two clear panes, between which is a material that transmits the display. The panes and material comprise the viewing screen and vary in form and content. This sandwich yields a narrow, upright viewing surface. The clarity of the images displayed is dependant on various traits of the materials between the panes.

Among the LCDs we reviewed, clarity was a strong suit and is presumably so for all LCDs, but there's a trade-off. With these precise images usually comes a smaller image size.

For instance, on an LCD, Desktop icons are considerably smaller than on a CRT with the same resolution. However, you can usually adjust the size of icons. On the other hand, though, many applications and Web sites offer no means of size adjustment.

A CRT's viewing surface is made up of rows and columns of relatively large dots. Each dot displays a fractional portion of an image, for instance, a single character, and these dots are readily scalable to provide for larger images, adjustable by the user.

LCDs are laid out similarly, but employ a smaller unit, the pixel, in their horizontal and vertical array. There are far more of these smaller pixels, which results in more sharply defined images.

Each LCD has a maximum, or native, resolution rating that describes the number of pixels on a screen. This is the ideal monitor setting. More pixels mean a sharper image, but right now, LCDs are not readily scalable like CRT dot patterns are. In many instances, a CRT user can adjust image size without much distortion. LCD screens are laid out in a fixed matrix, and the display strictly limits the number of pixels allocated to each displayed character. For now, users may choose a resolution lower than the ideal native resolution of the monitor, producing a larger, fuzzier image that may be prone to distortions.
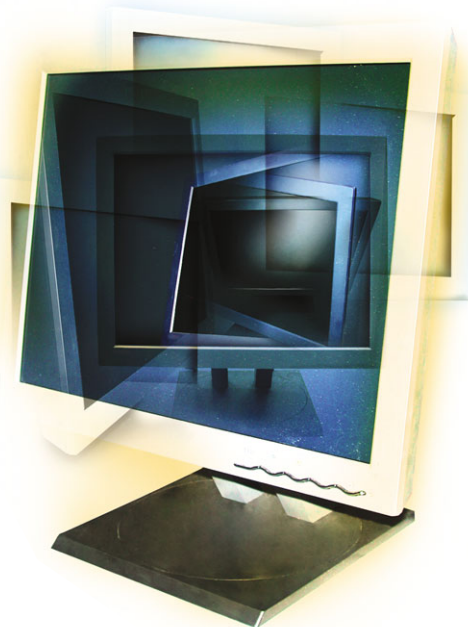
When asked about this trade-off, representatives from Sony, Sharp and Samsung noted that Microsoft's Longhorn OS (operating system), still in development, is the most likely scalability fix for LCDs.

Other Factors

LCD performance is the product of several elements. Important considerations include contrast ratio, brightness, and aspect ratio. The ultimate measure, however, lies in the eye of the beholder.

Contrast ratio measures black-to-white capability range. Optimal range width presents images in a true, broad spectrum, with faithful display for subtle distinctions, such as shadowed scenes.

Brightness proved to be a key measure for individual monitors. LCDs are brighter than CRTs. How well a monitor tames the brightness, translating natural images to the screen, is key.

Aspect ratio expresses a monitor's viewing area, relating the ratio of width to height. It's the lowest common denominator relating width to height. A screen rated at 4:3 could be 4 inches by 3 inches or 40 inches by 30 inches—either way, the ratio of width to height is the same.

Other factors also influence LCD performance.

Response time indicates how smoothly moving pictures transition. An LCD with high response time likely would reproduce blurry images. Samsung designer Anthony Cianfarano said CRTs are relatively fast, so CRTs provided a natural benchmark for LCDs, which originally were slow. Response time has dramatically improved for LCDs, expanding their ability to serve a wide range of functions, including lifelike motion.

Contrast ratio, or the ability to display a wide spectrum from bright white to deep black, was an early weakness of LCDs because they are extremely bright. Initially, they couldn't achieve the full range to black, and top ratings for some of the first monitors were in the 300:1 range, according to Cianfarano. LCDs we reviewed were rated between 450:1 and 700:1.

Yet another consideration is the issue of analog vs. digital inputs. Three of our five LCDs, Sony, ViewSonic and WinBook, offer both digital and analog inputs, while Samsung and Sharp LCDs employ analog only.

We asked Sharp's Ian Matthew for background: "Today, most computers still use analog output. . . . The differences between the two methods of input are virtually indistinguishable to the naked eye, as opposed to the printing process. Professional users prefer to use digital . . . (to) ensure that the color output remains consistent to the display when laid out in print."

The decision for home users may hinge on their computer's rating. If computer output is analog, digital capability may not be needed. To determine if an LCD handles analog only, or both analog and digital inputs, shoppers should read the product specs.

One trait received only passing mention from manufacturers but played a key role in our findings. To the reviewer's eye, screen texture seemed to be a strong determinant of true color range and image clarity. Two of the smaller screens employ an antiglare matte viewing area, while the remaining three screens are glossy.

Monitors with glossy screens seemed to handle broad color spectrums with greater accuracy than the antiglare screens. We asked the experts about the differences.

Robert Stevens from Sony told us it favors the glossy screen because it renders a truer, wider color spectrum. Jim Muta of Samsung said it employs the antiglare screen to limit reflective distractions that could compete with screen images. If you're wearing a white shirt while sitting in front of an LCD, for example, the reflection could prove highly distracting. We found merit in both points of view, but in the end, we favored the glossy screen because colors were truer.

Armed with these considerations, let's proceed to our findings.

SyncMaster 915n

$399
Samsung
(800) 726-7864
www.samsung.com

The Samsung 915n, the only 19-inch model we reviewed, is an analog unit with an antiglare screen. The display at 1,280 x 1,024, its native resolution, was true to form as mentioned earlier for all LCDs with 19 inches or smaller viewing area. The 915n delivered sharply defined images.

In routine word processing and spreadsheet functions, the Samsung performed well, even with images in Microsoft Word and Excel boosted to 135% using the zoom functions each program boasts.

Adjustments to optimize contrast and color were somewhat overwhelmed by screen brightness and the matte finish of the antiglare screen—this made it a bit challenging to find an ideal balanced setting.

While viewing art on museum sites, the 915n delivered fairly good detail, though images were not quite as clearly defined and detailed as those displayed on glossy screens.

A Samsung press release touts speed, speed, speed, citing an 8ms response time, which is ideal for computer gaming. Samsung's Jim Muta said Samsung has recently doubled the 915n's white-to-black speed, providing for a 4ms response time. This is a gamer's delight, but certainly isn't critical for mainstream home users. Also, this monitor is not optimized for TV use and isn't intended for viewing DVDs.

While the Samsung 915n wasn't our favorite, it was the better of the two antiglare units and represents a clarity improvement over midrange CRTs.

SDM-HS75P/B

$399.99
Sony
(800) 222-7669
www.sony.com

This 17-inch glossy-screen monitor fields a 1,280 x 1,084 native resolution. Company literature claims the unit intensifies images and provides distortion-free clarity. Image clarity was precise, and we easily made screen adjustments to achieve superior color balance to control the brightness common to all LCDs.

Word documents and Excel spreadsheets enlarged to 135% yielded undistorted, attractive screen images. Visits to the Louvre and Metropolitan Museum Web sites provided clear, crisp images. Although we couldn't quite make out the brush strokes, an enlargeable oil portrait of George Washington produced faithful detail and color rendering.

The Sony is our favorite of the small screen models because it delivered images with the truest color balance and contrast range.

LL-173C-B
$330
Sharp
(800) 237-4277
www.sharpusa.com

Sharp's brand new, 17-inch LL-173C-B was released in June 2005. This glossy-screen model produced the sharply defined images common to all monitors reviewed, plus it handled color and contrast nearly as well as the Sony, but at a significantly lower price.

The screen, also rated at 1,280 x 1,024 resolution, allowed comfortable image scaling to 135% in Word and Excel with minimal distortion. Color tones for George Washington's oil portrait and other art works were rendered well.

Screen brightness and contrast adjustments were not as controlled as for the Sony, which was the major difference we noted between the two. The Sharp's response time, rated at 12ms, is slower than Sony's 8ms, possibly an important difference for gaming fans.

The performance gulf between the Sony and the Sharp monitors was less than the difference in price, making the Sharp a good choice for users seeking superior performance and economy where response time is not critical.

VG710s
$369
ViewSonic
(800) 688-6688
www.viewsonic.com

This 17-inch, 1,280 x 1,024 resolution monitor features an antiglare viewing surface and two built-in, three-watt speakers on either side of the screen. Speakers weren't common to all monitors in the trial and therefore weren't a part of our testing.

The antiglare factor makes this unit most comparable to the Samsung. While the ViewSonic performed better than midrange CRTs, it was a clear second to the Samsung at handling contrast and color balance. At times, brightness was overpowering, giving color images a washed-out appearance. Those who favor an antiglare screen to a shiny viewing surface may find the Samsung brings more utility in color and contrast control for a relatively small price difference.

Word and Excel images boosted to 135% in the software Zoom function performed adequately.

Though the manufacturer touts "ultra-fast 16ms video response time" and 450:1 contrast ratio, on these dimensions ViewSonic fielded the unit with the two lowest ratings among screens reviewed.

32-inch HD-Ready LCD Television
$999
WinBook
(888) 480-9183
www.winbook.com

We set out to review monitors, so we had to widen that definition considerably when we added a large-format, HD-ready, LCD television. We reviewed this 32-inch giant to test how a larger LCD screen handles the trade-off between image sharpness and image size. It also addressed the merger of computer monitors and televisions. As its size is considerably larger, the WinBook's unit price is proportionally higher.

Screen resolution is rated at 1,366 x 768, representing the highest horizontal rating paired with the lowest vertical rating among the monitors reviewed. At 10ms, the WinBook's response time is faster than two smaller monitors.

Images are especially large and relatively clear, although they appeared a bit pinched vertically owing to the wider horizontal dimension. Imagine composing IMAX-sized email. In fact, images are so large that we had to scale back to 75% in Word and Excel documents to achieve a comfortable working size with good clarity.

The George Washington oil portrait revealed shorter vertical dimension, and color definition was less sharp than that of the smaller monitors. On the Internet, even pop-up ads with motion were clear and sharp with true-to-the-eye color range.

The WinBook delivers a highly workable combination of image clarity and size.

Purists who demand clarity in large images may find the WinBook provides an ideal mix. Likewise, users with visual limitations may find a functional solution in this model.

Wave Of The Future

LCDs are a marked improvement over their CRT predecessors. They offer clearer displays and occupy less desk space, and many users find that LCDs make for a much more enjoyable working environment. ▍

BY MICHAEL BORDER

Subscribers can go to www.smartcomputing.com/sept05/lcdchart for a chart with specs and more detailed information about each of the LCDs in this article.

You Haven't Suffered Enough:
Try Linux

It recently occurred to me that I didn't have enough stress in my life, so I decided to try the SuSE Linux operating system. As a long-time Windows user—I go back to the original coal-fired version—I knew that Windows was good for a few daily headaches, but if I really wanted to suffer for my journalistic art, I had to embrace an alternative operating system. No pain, no gain, and all that. So I bought a Linux box, fired it up, and sat in front of the screen in a catatonic state.

When I regained consciousness, I found myself surrounded by dancing penguins (the Linux mascot) and K-things such as Kmail, Klipper, Konqueror, and Konfusion. After a few days, I began to warm up to it and my initial impressions of Linux are quite favorable. I'll be sharing a few additional Linux impressions in the months ahead. If you would like to experience Linux without disrupting your Windows' lifestyle, Knoppix (http://tinyurl.com/b9wrp) permits you to run Linux entirely on a bootable CD, leaving your hard drive and your psyche untouched. It's really kneat.

Renaming multiple files simultaneously is easy for XP users. Select (highlight) the files to be renamed, press F2, enter a new name, and click anywhere outside the Name field. All selected files will instantly display the new name with a number in parentheses to differentiate each file.

If you're like me and tend to lose your balance and fall on the floor when you take your hands off the keyboard, here are a few little-known shortcuts the paramedics showed me on their last visit: To minimize all open windows, press the Windows Key-M; to undo, press SHIFT-Windows Key-M. To minimize only the active window (the window in which you're working), press ALT-Spacebar-N. To close the active window (this works great for annoying pop-ups, too), press ALT-F4.

The Mechanical Clock 3D Screensaver (www.3plane soft.com) displays the internal mechanism of an 18th century Swiss clock that works in sync with your computer's time. The clock's internal movements are fascinating, and the huge clock face makes it easy to check the time from across the room. (Or across the street, for that matter.) A free trial version is available, and it's $12.95 to purchase.

When WinXP experiences occasional processor turbulence, a message from Microsoft pops up to inquire if you would like to transmit a report of the incident to the Redmond-based mother ship. Your report, according to Microsoft, will help them continue to improve future products. Sometimes I weep openly knowing that Mr. Gates values my input to the extent that he will ask me to share my thoughts and feelings.

If you prefer to be left alone to brood in seething silence, go to your Control Panel and click System and Advanced tab, followed by the Error Reporting button. Select Disable Error Reporting, though you might want to click the But Notify Me When A Critical Error Occurs checkbox, just to keep in touch. **If you frequently right-click** files, folders, icons, or graphics and select Properties to check a file's size or other information about a given object, here's an easier way to get to Properties: Simply hold down the ALT key and double-click the item. This works with all versions of Windows. Who knew?

Behold, the Talking Search Engine! Sure, search engines that list zillions of search results are a quarter a dozen (adjusting for inflation), but the Speegle Sound Search Engine (www.speegle.co.uk) actually speegs to you. You can select a male or female voice, and the talking search results can include title only, title and description, URL and description, or all of the above. The unenthusiastic monotone of the female voice is hilarious, but the site itself provides a wonderful glimpse into future applications of speech technologies. Good job, Speegle!

Closing out this month's assortment of virtual tidbits, gems, and goodies, it's time to take the Mr. Modem Geographical Challenge, courtesy of the good folks at Sheppard Software: Can you place all 50 states in their correct positions on a map? Trust me, it's not as easy as it sounds. As a state appears on http://tinyurl.com/3wuxb, the challenge is to drag and drop it into its correct geographical location. You are immediately notified if you miss the mark—and by how many miles. It's fun and educational, in an occasionally embarrassing way. ▮▮

BY MR. MODEM

Mr. Modem (Richard Sherman) *is an author, syndicated columnist, radio host, and publisher. "Mr. Modem's Weekly Newsletter" provides personal responses to subscribers' computer and Internet questions, plus weekly computing tips, Web site recommendations, virus alerts, hoax warnings, and more. For additional information, visit* **http://www.MrModem.com.**

Get The Goods On Gmail

A Look At Google's Email Foray

You've heard the buzz about Google's free email service, Gmail. It offers gigabytes of searchable storage and has an unusual advertising policy. And you need an invitation to get an account.

So what's the real deal? And is it worth the fuss? We take a close look and let you know what it's all about.

Its Roots

In April 2004, Google randomly began sending Gmail invitations to Internet users. Soon, in a classic example of successful viral marketing, thousands of people had signed up for the email service and their friends had, as well. Over a year later, Gmail, by now a robust, well-polished app, is still in the final testing, or beta, phase.

The Storage Lure

For early adopters, the most compelling Gmail feature was its storage capacity. It started at 1,000MB—1GB—of email storage. And each day, Google actually increases Gmail accounts' storage space. On the Gmail sign-in screen, users can actually watch their space allocation number rise. As of press time, Gmail users can store over 2GB's worth of messages.

The Gmail Interface

As with any Web-based mail service, you access a Gmail account by first connecting to the Internet. Go to the Gmail sign-in page (www.gmail.com) and enter your username and password.

At first glance, the interface resembles other email programs. Commands for composing and viewing messages appear along the left side of the screen. Message subject lines appear horizontally across the screen. Double-click one to read its corresponding message.

Click Compose Mail at the top left to begin a new message. Composition options are comprehensive but not overwhelming.

- Full-featured text formatting, including colored text, multiple fonts, and URL insertions. To access these features, click the Rich Formatting link at the top of the message field.
- If you're interrupted writing a message, click the Save Draft button at the bottom of the message so you can return to it later.
- Click the Check Spelling link to access Gmail's excellent spellchecker.
- You can create a signature line. To do so, click Settings in the top-right corner. Near the bottom of the General tab is a field where you can enter a signature line. Be sure to select the radio button next to it. Click Save Changes when you're finished.

On the downside, Gmail has a 10MB limit for attachments, which is a bit skimpy. Also, we would like to see an out-of-office reply feature.

Contact list. Gmail's contact list is easy to access and update. Users can import contact lists from other email programs, as long as they're in the CSV (comma separated values) format. Once you've exported your contacts as a CSV file from your existing email app, click Contacts, Import Contacts, and Browse. Once you've found the CSV file, select it and click Import Contacts.

Popping in. Gmail supports POP (Post Office Protocol), which lets you download messages from Gmail into another mail program such as Outlook Express or Netscape Mail.

Spam & Virus Protection

To protect against viruses, Gmail does not permit messages that contain executable files to be sent or received. This not only helps Gmail users, but it also keeps hackers from using the Gmail service as a tool for attacking others on the Internet.

To control spam, Gmail scans incoming messages for spam-like phrases and dumps anything suspicious into a spam folder. Left unattended, the messages are deleted after 30 days. Users can also report spam to Gmail administrators. In our experience, Gmail spam filters work well. Our inbox was largely spam free, and very little legitimate mail gets categorized as spam.

The Gmail Difference

Gmail's unique capabilities involve organizing mail. For example, instead of using folders, Gmail users can create and assign color-coded labels for messages relating to specific topics. Click a label heading, and

you'll see all related messages. Also, because you see the subject lines of all your messages (they stay in the inbox until you archive them), you don't lose track of them as easily as you might when they're filed in a folder.

Conversations. As you correspond with people, Gmail keeps messages bundled together in conversations, or message threads. The messages are still stored chronologically, but when you return to a subject, it is remarkably easy to see who said what when. This organizational feature facilitates communication by encouraging correspondents to pick up where they left off. If you send the same message to multiple recipients, however, Gmail's conversations can get confusing.

Search. But Gmail gets around such problems with another distinguishing feature: searchability. Simply go to the top of the Gmail window and enter a search term, such as someone's name, and click Search Mail. The program scans through the text of your sent and received mail and presents all matching messages with the search terms highlighted.

Ads & The Privacy Question

Searching is Google's core expertise, so it's not surprising to find such a feature in Gmail. But what did initially surprise people was Google's advertising method. Most free email services paste advertising text into its users' messages. But Google doesn't do this.

Instead, Google searches for key words and phrases in your messages so it can insert targeted advertisements (Sponsored Links) alongside the messages you read. For instance, if you email a friend about a camping trip, there's a good chance you'll see ads for camping equipment or vacation spots beside his response. Furthermore, you'll see a similar ad if you read the note still lodged in your Sent box.

In its privacy policy, Google assures users that its ad targeting is completely automated. And although some have denounced Gmail as Big Brother technology, industry watchers have put forth some reasonable arguments that support Google's approach. For one, before Gmail, many other email services were already using robotic scanning of messages to eliminate spam and viruses—a technique that's proven effective. Essentially, Gmail's advertising policy is no different.
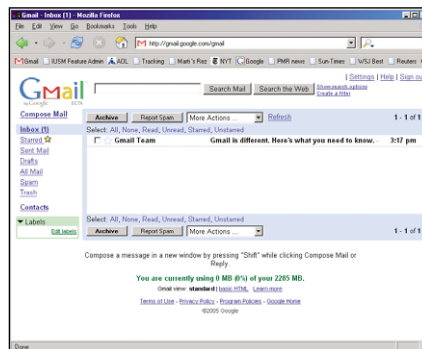
We appreciate the simplicity of the Gmail interface.

Like it or not, complaints about Gmail's privacy are protests against modern life and against the technology that allows entities such as Google (or credit card or cell phone companies) to monitor our actions. If you are seriously concerned about having your correspondence scanned, you probably shouldn't have an email account at all.

Get An Account—Maybe

One thing's certain: The marketers at Google know how to sustain a hot commodity—by keeping it exclusive. The only way to get a Gmail account is by invitation. Once you sign up, invitations start appearing in the program's Invite A Friend box. New users get a handful of invites; the more you use Gmail, the more invitations you receive to give away.

If you don't have a Gmail-using friend, there are still options for getting an invitation. Turn to the Web. Some have resorted to buying Gmail invitations at eBay, but the folks at Google don't recommend this.

We suggest visiting the Gmail-Forums Web site (www.gmailforums .com), which has a section dedicated to accounts and invitations where Gmail users offer their extra invitations. (The GmailForum site is not affiliated with Google or Gmail.)

Kudos To Google

Of course, it is thanks to Gmail that free email accounts are no longer toss-off commodities. Nowadays, everyone can keep their email correspondence archived online in a relatively spam- and virus-free environment.

Even though other email services are catching up, at least in terms of storage space, we highly recommend the Gmail service, especially for those who do not already have a free email account. If you have an account on another service and are wondering if it's worth switching, you'll have to be the judge. ❚❚

BY MARTI LACHANCE

Invite Yourself

Here are a couple of Web sites where you might be able to snag a Gmail invite.

Gmail Invites Queue (www.highwayman.org/gmail).
Enter your current email address and wait for the next available invitation.

43things (www.43things.com).
Members of the 43things community make lists of things they want to do. Many want to give away Gmail invitations.

Such sites come and go. Sometimes the invites dry up, so don't be discouraged if you find the cupboards bare. Instead, try searching for the phrase "gmail invite" on Google.

Information To Grow On

Harvest The Essentials Using USDA's Bountiful Resources

You don't have to be a produce, dairy, or livestock farmer to appreciate the comprehensive information on the USDA (U.S. Department of Agriculture; www.usda.gov) Web site. Of course, if you need agriculture info, this is the place to go, but it's far from the only thing you'll find at this in-depth, well-ordered site. But be prepared for acronyms. If there's one thing government agencies seem to love, it's acronyms, and that's readily apparent as you click through this Web site.

With the astonishing amount of information on this site, it would be easy to click from one article to the next a few times and end up with no idea where you are. No matter how far into the USDA site you click, though, the navigation menu from the main page remains fixed across the top. Directly beneath it, you'll see a homing device that says You Are Here: Home. For example, let's say you've clicked around in the Rural And Community Development section while searching for information on the 4-H (Head, Heart, Hands, and Health) program; the homing device reads as follows: You Are Here: Home/ Rural And Community Development / USDA For Kids.

Speaking of the USDA For Kids, there are three pages of links to educational programs and games for kids. Look for the familiar Smokey Bear (tips on safely building campfires), a George Washington Carver Coloring Book (a book of puzzles, activities, and games honoring Dr. Carver and his contributions to agriculture and science), Food Safety For Kids And Teens (featuring games, puzzles, and quizzes designed to teach kids how to safely handle, prepare, and store food), Eat Smart & Play Hard (the national campaign to educate kids about the benefits of exercise and healthy eating), and AMSville (teaches children about grading and inspecting poultry and meat and where to find local farmers' markets), among numerous other programs.

Find It At Home

On the home page, you'll find the previously mentioned menu bar across the top. You'll also see a Search bar along the left side of the page, and that, too, remains fixed as you drill through the USDA Web site.

My USDA. In the My USDA section, you'll see links to Login, Customize, and New User. Typical users don't need accounts to access information; however, if you do, click the New User link to sign up for access. To participate in USDA surveys or obtain specific departmental information, register for Level 1 Access. The USDA requires pretty basic info for this level of access, such as name, home address, and email address.

If you have to enter into a contract, do business, or file electronic forms with the USDA, you'll need to obtain Level 2 Access. To do so, you'll first have to establish Level 1 Access and then provide a bit more personal information.

On subsequent visits to the site, click Login to access your account. There's also a Customize link that lets you make some changes to your USDA page, but unless you're an account holder, don't bother clicking it because you'll get a warning letting you know if you attempt to make unauthorized changes to the Web site, you'll be fined and/or jailed for not more than 10 years! If you have an account, enter your username and password, log in, and begin making your changes.

Browse By Audience. This sparse section contains only a drop-down menu. Use it to select information based on your viewing perspective. For instance, if you're a teacher or pupil, click Educators And Students to see pertinent programs and information for these groups. Find out more about the link between nutrition and school performance in Tips For A Healthy School Year or learn about safely preparing your Thanksgiving turkey in Let's Talk Turkey.

Browse By Subject. Here, you'll find 10 section headings that group information by subject, including Agriculture, Education And Outreach, Food And Nutrition, Research And Science, and USDA Employee Services. For instance, if you're curious about

Click directly on the 😊 😐 😠 emoticon (face) for more detailed dietary information.

Dietary Guidelines Recommendations	Emoticon	Number of cup/ oz. Equ. Eaten	Number of cup/oz. Equ. Recommended
Grain	😊	7.2 oz equivalent	8 oz equivalent
Vegetable	😐	2.3 cup equivalent	3 cup equivalent
Fruit	😐	1.2 cup equivalent	2 cup equivalent
Milk	😠	0.4 cup equivalent	3 cup equivalent
Meat and Beans	😊	8.5 oz equivalent	6.5 oz equivalent

Dietary Guidelines Recommendations	Emoticon	Amount Eaten	Recommendation or Goal
Total Fat	😊	33.1% of total calories	20% to 35%
Saturated Fat	😊	9.3% of total calories	less than 10%
Cholesterol	😊	179 mg	less than 300 mg
Sodium	😊	1817 mg	less than 2300 mg
Oils	*	*	*
Discretionary calories (solid fats, added sugars, and alcohol)	*	*	*

* Calculations for oils and discretionary calories from foods are under revision.

After you've personalized MyPyramid, the emoticons let you know if you're meeting your daily requirements.

procedures for testing cattle for BSE (bovine spongiform encephalopathy; otherwise known as mad cow disease), click the Research And Science link and then the BSE Testing Program link. You'll be taken to the NVSL (National Veterinary Services Laboratories) Web site, which is a division of APHIS (Animal & Plant Health Inspection Service). The NVSL's mission is to test specimens for animal diseases and find ways to eradicate the various diseases.

In The News. The center of the home page presents links to press releases from the Agriculture Secretary's office. If you don't find the news you're looking for, click the More button to see a list of links to current releases. From there, you also can delineate dates to check archived news items going back to January 2001.

Spotlights. Toward the bottom of the home page, you'll see the Spotlights section. Topics in this section rotate, so you'll likely see something different every time you visit. At press time, CAFTA-DR (Central America-Dominican Republic Free Trade Agreement) was a hot topic, so it had its own link. Click it to read the full text of the trade agreement and some agricultural and commodities fact sheets. Because the USDA supports CAFTA-DR, you'll find very little

commentary or argument opposed to the treaty on this site.

Track Eating & Exercise Habits

The Spotlights section also featured our favorite part of the whole site: MyPyramid. The widely recognized Food Guide Pyramid has changed because dietary recommendations have changed. Nutrition guidelines are not one-size-fits-all, so the CNPP (Center for Nutrition Policy And Promotion) recently revised its popular teaching tool so consumers could tailor it to their personal needs using MyPyramid. There are still general guidelines, but the recommended amounts vary depending on your age, gender, height and weight, and goals. For instance, a nursing mother's nutritional needs will differ markedly from the needs of a 76-year-old man.

If MyPyramid isn't a Spotlight feature when you visit the site, you can find it by clicking Food And Nutrition in the navigation bar along the left side of the page. Toward the middle of the page, you'll see MyPyramid, Steps To A Healthier You. After you click this link, you'll see a My Pyramid Plan box on the right side of the page. Enter the appropriate information and click the Submit button. My Pyramid Plan displays immediate results, detailing how many servings of Grains, Vegetables, Fruits, Milk, and Meat And Beans you need each day. Click the Tips cell next to each amount on the table for ways to incorporate foods from the groups into your diet.

For more details and to track and analyze your eating habits, click My Pyramid Tracker. You can't miss it: It's on the left side of the page in the Search MyPyramid.gov box and in its own area on the right side of the page. Enter your username and password and you can enter the foods you've eaten and analyze them for nutritional value. You also can click the Physical Activity Entry button at the top and enter the various physical activities you engaged

Tips For Using USDA

• **Weather watchers.**
You don't have to be a farmer to be concerned about the weather. To see regional maps and read about the climate in your area, click the Find Weather And Climate Conditions link from the I Want To box on the home page.

• **Presidential activities.**
From any page on the site, if you'd like to know what President Bush is up to, scroll down to the bottom of the page and click the White House link.

• **Its own Homeland Security section.**
As you browse the USDA site, if you become concerned about the possibility of a change in the threat level issued by the U.S. Department Of Homeland Security, you need look no further than the upper-right corner (just below the menu bar) of the home page. A Threat Advisory meter lets you know the level; click anywhere in the box to visit the USDA site's Homeland Security section for more information.

in each day. Click the Energy Balance button for an assessment of whether you're taking in enough calories each day based on your activity level.

The first couple of times you use the food and physical activity intakes, you may have a little trouble navigating their options. It just isn't possible for the CNPP to have entered every conceivable type of food you may have eaten, so you might have to get a bit creative. For instance, you may not find roast beef sandwich on the list of searchable foods, but you can separately enter roast beef, mayo, lettuce, onion, and multigrain, high-fiber bread from the list and then select the proper quantities.

Every day for a couple of weeks, we entered everything we'd eaten the day before (so we didn't have to remember to enter the items as we ate them throughout the day; you cannot go back and add data once a day has passed). After entering food items and amounts, we clicked the Save & Analyze button. The next page returned five levels of analysis: Meeting 2005 Dietary Guidelines, Nutrient Intakes, MyPyramid Recommendations, Nutrient Information For Dietary Supplements, and Healthy Eating History.

To get returns on your Healthy Eating History, save data for at least two days and for as long as one year and you'll see a chart comparing your eating habits for one week, one month, six months, or one year.

Safety Issues

On the far-right side of the home page, look for an I Want To box. Here you'll see a link for Find Current Food Recalls, among others. Click the link to visit the FSIS' (Food Safety And Inspection Service's) Recalls site to see a list of currently recalled foods. The FSIS is the agency charged with ensuring the safety of the nation's meat, poultry, and eggs. Additionally, the agency recalls food that is improperly labeled or packaged. The chart on the main page lists only foods that are currently on the list. For a list of food items for which the recall is complete, click the link for Closed Federal Cases.

If you'd like to report trouble you've had with a particular food, click the Problems With Food Products link. This section lists phone numbers and URLs (uniform resource locators) for federal and state agencies to which you'd report your problem.

You also can find a plethora of links regarding food safety in the Food And Nutrition section. From the navigation bar on the left side of the home page, click Food And Nutrition, and as you peruse the page, you'll see numerous references to food safety. In the Related Topics box on the right, click Food Safety for more information on Food Handling, Food Recalls, Food Irradiation, Foodborne Illnesses, and Food Safety Resources.

If you have questions concerning safe handling, storage, or preparation of meat or poultry, click USDA Meat

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FACT SHEET

The USDA

Established in 1862 by President Lincoln, the U.S. Department of Agriculture was a central repository of information about seeds and plants for the 58% of Americans who were farmers. Today, roughly 0.4% of Americans are farmers, and while the USDA has maintained its commitment to farmers, it also has established programs that protect, educate, and assist the millions of city and suburban dwellers in this country. Among its many contemporary programs, the Department of Agriculture directs a handful of programs (WIC [Women, Infants, and Children], Food Stamp Program, National School Lunch Program, and School Breakfast Program) that help feed our nation's neediest folks. ∎

& Poultry Hotline from the Food Handling section. Before calling the hotline, however, take a look at the right side of the page and click Food Safety FAQs (frequently asked questions). You'll find answers to questions such as, "How long is it safe to keep a turkey, or other meat or poultry product, in the freezer?" and "Is it safe to eat lightly cooked egg dishes or use recipes that call for raw eggs?"

Scratching The Surface

Also on the right side of the home page, you'll find an Announcements And Events box listing agricultural-themed conferences and events along with their dates. Click a link in the box for more details on a particular event.

There's so much information on the USDA Web site that it's nearly impossible to cover it all on these three pages. Keep in mind as you click from link to link, you need only look toward the top of the page to know where you are and how to get back home, so you can start your searches anew. ∎

BY KATHRYN DOLAN

There are three pages of kids' programs in Youth Resources in the Education And Outreach section, including the popular Smokey Bear program designed to teach kids about fire safety.
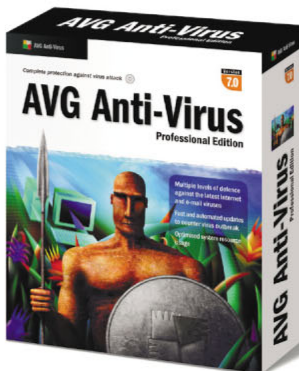
Enhance Your Time Online

Fix Your Own Printer

Problem: I've had my laser printer for ages, and while it's a workhorse, it's also showing its age. What kind of first aid can I administer to my printer?

Solution: The printer lover's paradise can be found at fixyourown printer.com (www.fix yourownprinter.com). Its main service is geared toward the idea that most printer problems can be easily fixed with a spare part and a little know-how. So enter your printer model, see if your problem is described, and if it is, check out its solution. For those on an even tighter budget (or with less severe glitches), the site has a great reference section with explained error codes and free downloadable manuals (in case you lost yours or bought your printer secondhand).

Thousands Of Free & Legal Bootlegs

Problem: I love live bootlegs of concerts, but peer-to-peer software makes me nervous, and I don't want to do anything illegal. Where can I turn?

Solution: Some bands actually encourage fans to record their shows. Now you can sort through an amazing collection of over 23,000 live shows—all absolutely free. It's all at the Live Music Archive (www.archive.org/audio /etree.php), part of the etree.org community. Looking for a catch? Well, don't expect a ton of today's popular bands. The selection is made up of trade-friendly bands, which means a lot of folks you likely haven't heard of. But there are a bunch of big names in the bunch: Cowboy Junkies, Hank Williams III, Jefferson Starship . . . and of course, the Grateful Dead (with almost 3,000 Dead shows).

Ring Around The Phone

Problem: I just got a new cell phone, and I want new ringtones without having to pay for them.

Solution: If you have a way to transfer files to your new cell phone (say, through Bluetooth), check out the free offerings at Polyphonic Ringtonez (www.polyphonicring tonez.com) before you plunk down your cold cash on the latest ring tones. Many phones are supported, and there are plenty of themes to choose from, including pop music, sports, and video game themes.

Find Out About Food Recalls

Problem: At the grocery store, I saw a posted note about a certain food recall. Where can I find info on all the kinds of food recalls?

Solution: The U.S. Department of Agriculture's Food Safety and Inspection Service department has a wonderful Web site (www.fsis.usda .gov/Fsis_Recalls/Open_ Federal_Cases/index.asp), which lists all open food product recall cases. There is also helpful info (who to call and what to do) if you have a problem with a food product.

The USDA does more than the food pyramid; check out its info on food recalls.

Peek Behind The Curtain At The Works

Problem: I'm fascinated with the nuts and bolts of technology. I know it's all 1s and 0s, but how does it really all come together?

Solution: Ever asked how or why something is a certain way and been told "because?" Want to know how stuff works, in detail but without too much technical jargon? The encyclopedia for this kind of stuff is HowStuffWorks.com (www.howstuffworks.com). You may be familiar with the books of the same name, but this site goes way beyond its literary counterparts. From computers to cars, from home to health, this site is packed with simple questions and big answers. There are even some fictional items explained . . . though these are listed as how stuff would work.

For everyone interested in the inner workings of stuff, HowStuffWorks.com gives the full story.

Pick Up A Book

Bartleby.com

www.bartleby.com

Can't make it to the library today? No problem: Bartleby.com offers thousands of fiction, nonfiction, poetry, and reference works to visitors for free. Instead of warehousing thousands of paperbacks and hard covers, this site houses their digital equivalents on its servers. Bartleby.com includes a powerful search engine that lets users search its entire collection (including each document's text). If you have as much trouble as we do when it comes to pronouncing words, you'll love the site's audio word definitions. Visitors can sign up for Bartleby.com's email newsletter, which includes definitions, quotations, biographies, and more.

Bas Bleu

www.basbleu.com

The gargantuan retail bookstores that pepper the nation are vast treasure troves of mainstream books, but believe it or not, they don't house some lesser-known literary works. If you're looking for unusual books, surf on over to Bas Bleu, a mail-order book seller that also offers its catalog online. The site's employees write helpful reviews of the books and seek out stories that you won't find in the average bookstore. The main page lists the site's best-selling books, while the Current Catalog section displays books and reading-related items, including (at press time) a rope chair and a Jane Austen Cuff Bracelet. Bas Bleu also sells a variety of greeting cards.

Book Adventure

www.bookadventure.org

If your favorite techie isn't taking to books as easily as she is to video games, direct her to the Sylvan Learning Center's Book Adventure, a site that uses prizes to encourage children to read. Book Adventure's plan is simple: It helps your child create a reading list and (once she finishes a book) tests her understanding of the book via a quiz. Successful readers who earn enough points can choose from a variety of prizes, including books and a six-month subscription to Highlights For Kids Magazine. The Book Finder, which lists the books for which the site has quizzes, includes more than 6,000 books in a variety of categories.

Library Stuff

www.librarystuff.net

Whether you work in a library or enjoy visiting one, you'll find that Steven M. Cohen's Library Stuff blog offers plenty of worthwhile tidbits. The site is a **blog** (**Web log**; an online journal) in which Cohen comments on library-related news. In most cases, Cohen follows the traditional blog format by linking to a news article, quoting portions of it, and posting his thoughts. Each blog entry lets visitors post their own comments and read others' views, which lets Cohen and his readers have a slow-paced, online discussion. Library Stuff also links to other blogs via a special blog-linking service.

Litblog.com

www.litblog.com

If you devour book reviews as fast as you read books, you'll love Litblog.com. The site's authors, Kathryn and Patrick, frequently post long messages that are part book review, part musing. However, if you don't like spoilers (discussions that expose key details about stories), steer clear of these posts, as the authors apparently assume that visitors have already read the books they discuss. Of course, you can make sure you've already read the books before they post by checking the right side of the main page, which lists both the books they're already reading and those they plan to read.

The Litblog Co-Op

lbc.typepad.com/blog

Unlike standard blog authors, litblog authors avoid lists of their daily routines or commentary on politics and instead focus on literature. If you're looking for fresh discussions of both new and old books, visit the Litblog Co-Op, which connects about 20 litblogs, so readers can easily flit from one discussion to another. The site links to such litblogs as Bookdwarf, Literary Saloon, and The Happy Booker and suggests books to visitors. The site recently teased visitors with a picture of only a small portion of the book that it planned to announce so perceptive readers could find the book ahead of time. If you'd like to nominate a book for the site's Read This! category, click the Suggest A Title link on the left side of the page.

My Home Library

www.myhomelibrary.org

Don't lend your books to friends without first attaching a bookplate to the inside cover. A bookplate is generally a sticker that bears the library's name (whether it's a public or home library). Readers also use bookplates when giving (or receiving) books as gifts. You can find plenty of straightforward bookplates that don't include pictures, but if you're looking for unusual stickers that add a special touch to your literary treasures, visit this site and then click the Book Plates link in the navigation menu. The site has free, printable book plates for adults and children and offers small, medium, and large sizes that accommodate any size book in your collection. My Home Library also offers a brief history of the bookplate.

That's
News
To You

Finding the appropriate Usenet discussion group to match your interests can be a monumental task. So each month, we scour tens of thousands of newsgroups and highlight ones that delve into popular topics. If your ISP (Internet service provider) doesn't carry these groups, ask it to add the groups to its list. This month, we poke around for online bookworms.

alt.books

Most readers here sell their books, so expect to see FA (for auction) and FS (for sale) in many message titles. As with all user group messages, take the amateur book reviews here with a huge grain of salt.

....

rec.arts.books.marketplace

If you didn't find the right book for sale or auction among the alt.books messages, try your luck here. This group uses the same FA and FS titles to indicate auctions and sales.

....

rec.collecting.books

Not sure if your rare book is a first edition? Post a message to this group, which regularly asks and answers questions about book collecting. Readers also compare notes about author signings.

Share The Wares

Some of the best apples in the online orchard are the free (or free to try) programs available for download. Each month we feature highlights from our pickings. This month, we search for rare books and dig up some writing software.

BookFinder.com

If you're looking for mainstream books, you won't have any trouble locating them at online booksellers, such as Amazon.com (www.amazon .com). But if you're looking for unusual titles or early editions of mainstream books, you might not find them via traditional booksellers, whether online or in the real world. Enter Book Finder, a massive and constantly updated database of books for sale at stores around the world. This free online search tool, which claims to catalog more than 70 million books, supports multiple languages and has an array of options that help you narrow your search.

Start by entering the author or title of the book (or both, if you know them). Next, you'll need to indicate whether you're searching for a new, used, or out of print book. (You can select Any if you're not interested in its condition.) You can also specify First Edition or Signed Copy, but if you want to add extra search considerations, such as a price range, you'll need to click the Show More Options link at the bottom of this section. The tool has a Reset Fields button—if your search terms and special settings don't do the trick, you can simply click this button and start from scratch. Once the Book Finder displays results, you can click a book's price to visit the seller's site.
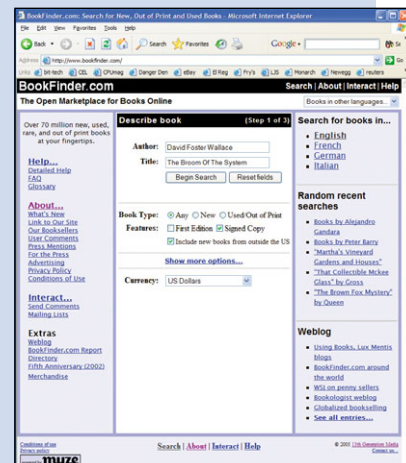
BookFinder.com searches millions of books online, so you can compare and shop for the best prices.

StoryWeaver 3.0

www.storymind.com

Penning the next great American novel? If you have a great idea but can't turn it into the book you know it could be, consider a writing program. Story-building software replaces paper note cards (that organized plot elements) with more than just digital note cards. Programs such as StoryWeaver add extra features that help writers identify and overcome problems as they write. To that end StoryWeaver boasts StoryCards (which include tips), links to online material, and instructional video clips. You can write your story notes (and even your story, for that matter) in the program's text editor. Users move from one page of notes to the next by clicking a folder tree on the left side of the window. Although more expensive writer programs have better interfaces than StoryWeaver, you'll find that it offers plenty of plot-building information for the price. Download the trial demo or buy StoryWeaver for $29.95.

Intuitively Designed.

Micra 6

Get Your PC In Gear

Combat Annoyances Related To Bootups, Crashes & Shutdowns
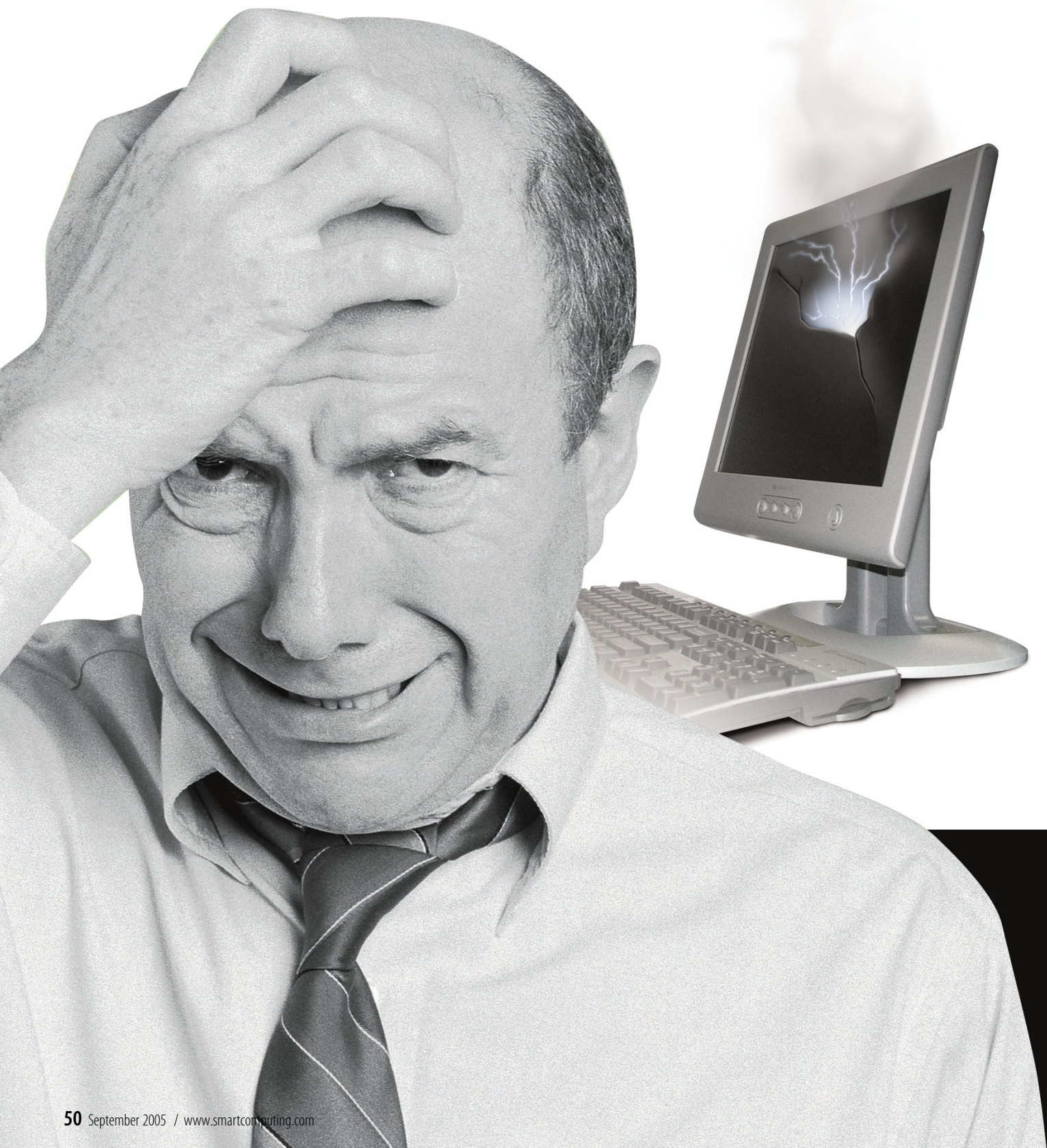
s it too much to assume that a 21st century PC will boot up and shut down without crashing? Is it unreasonable to expect a $1,500 piece of equipment to function properly when used under normal conditions? Unfortunately, for many users, the answer is yes. That's why knowing how to deal with such annoyances is an important part of maintaining PC productivity.

Boot Annoyances

Booting a computer should be a simple matter of pressing a button. If it isn't, you have trouble on your hands. When boot annoyances strike, the best response is to systematically assess the situation and determine exactly what went wrong.

Nothing happens when you press the power button. An unresponsive PC is a symptom of a hardware malfunction ranging from something as trivial as an unplugged power cord to something as serious as a dead motherboard. To figure out the problem, start by making sure: the computer is plugged in to an outlet; your surge protector or UPS (uninterruptible power supply), if you have one, is turned on; and the power cord is securely connected to the back of the computer. Try booting the computer again. Hopefully, it will start now.

If it doesn't, the likely culprit is an inoperative motherboard or power supply. The solution is to replace the defective component with a new one. Before investing heavily in new hardware, however, open up the PC's case (after taking the proper precautions to discharge any static electricity you may be carrying and/or putting on an antistatic wristband) and verify that the power cables are connected securely to the power supply and various other internal hardware components. You also should test the power button to ensure that it's working properly. Press the button and note how it feels under your finger. The button may be broken if it seems loose in its casing, for instance, or fails to pop back after you push it.

Even when the PC acts like it's starting, nothing appears on-screen. Most computers are equipped with small LED (light-emitting diode) lights that flicker as the **BIOS** (**Basic Input/Output System**; a program that governs the computer's boot routine) communicates with system hardware. If you see these lights flicker or hear the hum of the hard drive spinning up but the screen remains black, the problem may be a faulty monitor or video card. Make sure the monitor's power cord is plugged into a live power source and that the monitor cable is connected to the PC. You also should check the monitor settings to rule out a bad Brightness or Contrast setting as the source of your trouble.

The problem may reside elsewhere, of course. The aforementioned symptoms also can point to a burned out processor or a malfunctioning power supply. Listen for beeps when you try to boot the computer; if you hear them, you may need to start the troubleshooting process by replacing the CPU. For more information, see "Troublesome CPUs" (particularly its "Beep Codes & Your CPU" sidebar) at www.smartcomputing.com/rsdec03/cpu.

When my PC starts, the OS (operating system) never appears on-screen. Assuming you didn't leave a floppy diskette in the diskette drive, the initial diagnosis in this situation points to the hard drive. Either the drive itself is faulty or some of the key system files stored on the drive are corrupted.

Your first thoughts should focus on saving your data. Hopefully, you already have a full backup in your possession. If not, you may be able to recover your most important data files by booting to a boot disk and executing the COPY command at the DOS prompt.

After backing up your data, the next thing you should do is scan your system for viruses. Use the emergency disk provided by your antivirus software developer (if you have one). The next step is to reformat the hard drive and reinstall Windows. If you're unable to execute any of these steps, you probably need to replace the hard drive.

There's always the possibility that the hard drive is fine, in which case, the problem may be the result of a corrupt BIOS, damaged motherboard, or faulty memory modules. You can replace the memory modules on your own, but the best bet when dealing with a damaged BIOS or

The DOS COPY command may be your last chance to save data files on a damaged hard drive. The basic syntax for the command is as follows: copy *<location and name of file to be copied>* *<name of new storage location>*.

```
A:\>copy c:\document.doc a:
A:\>copy c:\documen1.doc a:
A:\>copy c:\documen2.doc a:
A:\>copy c:\documen3.doc a:
```

motherboard is to contact the computer manufacturer for assistance.

Crash Annoyances

Like a speeding car on a sharp curve, a computer that encounters a serious system error will likely crash. An immediate response is the best way to repair the damage and get moving again.

An error message on a blue background suddenly displays. Also known as a Stop error, the BSOD (Blue Screen of Death) is generally the result of a Fatal Exception error. A Fatal Exception error occurs when an application tries to execute an **illegal operation** (an unauthorized or invalid action), such as accessing nonexistent data. A BSOD almost always prompts you to press any key to return to the Desktop or press the CTRL-ALT-DELETE key combination to restart the PC. We suggest pressing any key to return to the Desktop if possible. Once there, you should shut down the computer and restart it. If you can't access the Desktop, press CTRL-ALT-DELETE to reboot directly from the BSOD.

Either way, the reboot alone may take care of the issue. If the BSOD happens again, write down the message text. Start the search for a particular solution by accessing the Microsoft Knowledge Base (support.microsoft.com), typing the message in the Search The Knowledge Base field, and clicking Go.

Your computer freezes without warning. When a computer freezes or locks up, it responds to nothing—no mouse clicks, no keyboard taps,

nothing. The only thing you can do is hold the power button in until the PC shuts off. Wait 10 seconds before starting the computer again. A hard reboot is often all it takes to resolve the problem, which is frequently linked to a memory overload from trying to execute too many tasks simultaneously. After the computer restarts, keep your multitasking to a manageable level and only run resource-hungry programs individually.

If the lockups continue, they may be the result of a virus infection, buggy software, a conflict among two or more applications, or an undersized power supply. To address these issues, scan your system for viruses and download the latest updates for your programs. Also, consider uninstalling all unnecessary programs and upgrading the power supply to resolve persistent problems.

PC runs very slowly. Just as a persistent migraine is more debilitating than a single bout of nausea, so too is a chronic case of slow PC performance more debilitating than an occasional crash or lockup. For this reason, you should attack a serious case of system sluggishness with the same tenacity that you would treat a BSOD or a sudden freeze.

Start by performing a complete maintenance routine: Scan for viruses and spyware; delete temporary files and other unnecessary data; uninstall old applications; remove unused hardware; scan the Windows drive for disk errors; and defragment the drive to improve its operating efficiency. Next,

When trouble strikes, consider using the Add/Remove Programs utility to uninstall unnecessary software. Shedding the extra programs helps your PC operate more efficiently and decreases the likelihood of crashes.

download and install the latest updates and patches for all system hardware and software, including the OS.

Finally, you should prevent unnecessary programs from loading during the boot routine. You can do so in three ways:

1 Delete shortcuts from the Startup submenu (on the Start menu) by right-clicking each unnecessary shortcut and selecting Delete from the pop-up menu.

2 Access the System Configuration Utility by opening the Start menu, clicking Run, typing **msconfig** in the Open field, and clicking OK. Choose the Startup tab, deselect the unnecessary entries, and click OK.

3 Open the Start menu, click Run, type **regedit** in the Open field, and click OK to launch the Registry Editor. Next, access the HKEY_LOCAL_MACHINE\SOFTWARE\MICROSOFT\WINDOWS\CURRENTVERSION\RUN key and delete the values that point to unnecessary programs. (Be sure to back up the Registry before making any changes to it.)

Shutdown Annoyances

After a lengthy session at the computer, the last thing you want to do is deal with shutdown issues. Don't leave the problem until next time, though; it's best to attack shutdown problems right away—while you can still identify a cause.

PC freezes during shutdown. Whereas startup problems tend to have hardware causes, shutdown problems typically point to underlying software issues, such as an incorrect

Use the Registry Editor to peruse the contents of the HKEY_LOCAL_MACHINE\ SOFTWARE\MICROSOFT\WINDOWS\ CURRENTVERSION\RUN key. You can boost system performance and prevent boot problems by abbreviating this list.

BIOS configuration or a buggy driver. To address such a diverse body of possible causes, you should plan on performing several basic troubleshooting maneuvers.

Start by cleaning the hard drive. Delete old temporary files, scan the drive for disk errors, and uninstall unused applications. The next step is to obtain the most recent updates for all system components. Visit Windows Update at windowsupdate.microsoft .com to download critical updates for your Windows version. Visit the sites of hardware manufacturers and software developers for driver updates and software patches, as well.

If these steps don't solve the problem(s), undo any recent changes you made to your PC. And, of course, scan the system for pesky viruses that may have corrupted the OS.

PC makes a loud whining noise as you turn it off. A whining or grinding noise when you shut down the computer is probably caused by an overworked, overly dirty power supply fan. A can of compressed air or a vacuum with a wand attachment can blow away or suck up all of the dust and grime that has accumulated around the fan. A clean fan can run more efficiently—and quietly—than a loud one. Follow these same steps if you notice that the computer is hot to the touch, smells like burning plastic, or emits smoke.

Reboot the computer when you finish the cleaning process. If the problem persists, you should replace the power supply immediately.

Your computer reboots itself. A computer that reboots without warning is like a volcano that unexpectedly

erupts to destroy all of the unsaved data in its path. If the computer suddenly reboots for no reason, scan for viruses immediately and clean the power supply fan of dust and gunk. If you use Windows XP, you also should
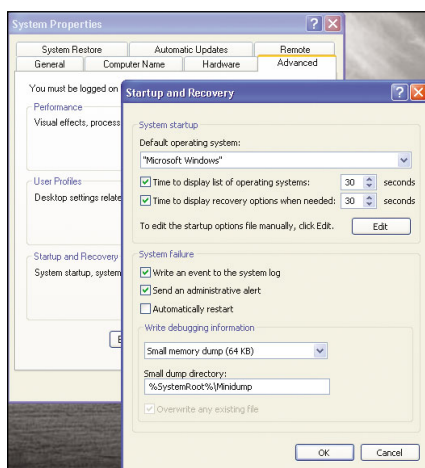
Deselecting the Automatically Restart checkbox in Windows XP's Startup And Recovery dialog box tells your PC not to reboot automatically when it encounters a Stop error.

make sure the OS isn't set to restart automatically when it encounters a system failure. To do so, right-click My Computer, click Properties, choose the Advanced tab, and click the Settings button listed under the Startup And Recovery heading. Locate the System Failure section in the resulting Startup And Recovery dialog box, deselect the Automatically Restart checkbox, and click OK.

This problem may be the result of an undersized power supply, a bad memory module, or an overheated processor, so be prepared to upgrade these core system components if the problem persists.

Take A Deep Breath

We wish we could tell you that these types of annoyances will soon become mere memories that we'll all look back on and laugh at some day, but we aren't at that point yet . . . and we aren't sure if we ever will be. So, in the meantime, take the proactive approach and teach yourself how to overcome such problems to keep your computing frustrations to a minimum. ▮

BY JEFF DODD

Find More Online

We didn't have room to address all of the complications a user might face while troubleshooting problems related to bootups, crashes, and shutdowns. Fortunately, you can get extra help by taking advantage of the resources at SmartComputing.com, including the following articles.

Crash Control: Target The Common Causes Of Crashes & Lockups
www.smartcomputing.com/scmar05/crash

What To Do When . . . You Need To Create A Boot Disk: Use Boot Disks To Resuscitate Your PC
www.smartcomputing.com/rsdec03/bootdisk

What To Do When . . . Your Computer Is Running Verrry Sloooowly: Speed Up A Sloth-Like PC With These Tips
www.smartcomputing.com/rsdec03/slowpc

I f your car alarm perpetually shrieks at the touch of a stiff breeze, or if the lock on your home's front door inevitably sticks when you have your hands full with shopping bags, you probably feel right at home with one of computing's ironic little twists: The products and features intended to shield us from threats and annoyances often prove annoying themselves, whether due to an inability to fend off attacks, ultra-strict configurations that prevent us from fully using our PCs, or other problems. The good news is that eliminating these annoyances usually doesn't require much work, but you'll need to know a few tricks to solve some of the more stubborn problems.

In this article, you'll find some of today's most frustrating security-related annoyances, along with solutions to banish them forever.

Antivirus & Anti-spyware Annoyances

As if it isn't bad enough that we have to deal with malicious code and spyware, it's particularly maddening when we do everything we're supposed to do to avoid such nuisances and we still end up with problems.

Norton's Auto-Protect doesn't protect. Norton AntiVirus 2004 displays an Auto-Protect icon in the System Tray (far-right end of Taskbar) to indicate that the program's automatic, or background, antivirus protection is enabled. When the automatic protection *isn't* enabled, the program displays a red X through the icon, but many users complain that they can't enable Auto-Protect at this point. In the Norton AntiVirus System Status dialog box, Auto-Protect is "Off" and Email Scanning shows "Error."

If you recently upgraded Norton AntiVirus from a previous version, run LiveUpdate to download and install available updates. If your software is up-to-date and you're still experiencing this problem, you might have a virus infection.

Some viruses, such as a few Beagle variants, can halt certain Norton Anti-Virus processes so the virus can run without detection on your PC. If such a virus infects your PC, Norton Anti-Virus may not run properly, so Symantec recommends using the Automated Support Assistant at service.symantec .com/sa to check for common infections. If that scan doesn't reveal a virus, visit Symantec Security Check at www.symantec.com/cgi-bin/security check.cgi to perform a more extensive virus scan.

If either of these scans finds an infection, follow the instructions to remove the virus. If no infection is found, you'll need to make sure that Norton's files and services are loading when Windows starts. To see detailed instructions on finding these files and services, visit the Symantec Knowledge Base at www.symantec.com/tech supp/nav/nav_2004_tasks.html, type **2003091710234206** in the field, and click Search. Symantec also lists other tips on this Web page, but you must follow each tip in the specified order.

Viruses that won't go away. Like guests who don't pay attention to your repeated hints that they leave, viruses that never leave despite your repeated attempts to eliminate them can cause instant headaches. This problem can occur even when your antivirus software finds the virus and seemingly eliminates it.

One of the most effective ways to eliminate stubborn viruses is to run a virus scan in Windows' Safe Mode, which uses a limited set of services. To

Security Slipups
Keep Security Annoyances In Check

start your PC in Safe Mode, restart it, and as soon as the BIOS (Basic Input/Output System) screen appears, hold down the F8 key or CTRL key (or press the key repeatedly in one-second intervals, depending on your PC) until you see the Advanced Options menu (or the Startup menu in Windows 98/Me). Select Safe Mode and press ENTER. After Windows loads, perform a full virus scan.

Bear in mind that it's a good idea to temporarily disable System Restore before virus scanning so you can eliminate the virus from saved System Restore files. To turn off System Restore in WinMe, click Start, Settings, and Control Panel. Double-click the System icon, choose the Performance tab, click the File System button, choose the Troubleshooting tab, select Disable System Restore, click OK, and click Yes to restart Windows. In Windows XP, right-click My Computer (often in the Start menu), click Properties, and choose the System Restore tab. Select the Turn Off System Restore option (or the Turn Off System Restore On All Drives option), click Apply, click Yes to confirm the change, and click OK. (*NOTE: System Restore isn't available in Win98.*)

WinXP users also might need to disable Windows File Protection, which can reinstall system files that certain viruses require for propagation. For information about this feature and detailed instructions on how to disable it, visit www.microsoft.com/whdc /winlogo/drvsign/wfp.mspx. Modifying Windows File Protection requires you to make changes to the delicate Windows Registry, so see our "Find More Online" sidebar for the Web address of "Protect Yourself," an article about backing
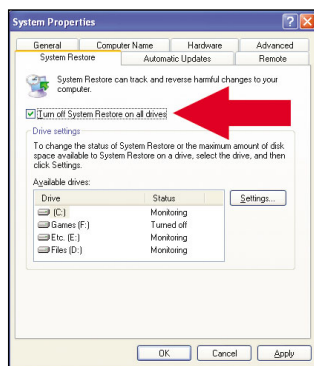
Before eliminating a pesky virus, temporarily disable System Restore to make sure the virus doesn't remain in your backup system files.

up the Registry before making changes to it.

Antivirus or anti-spyware app won't update properly. After you update your antivirus or anti-spyware software, the program insists that you still need to download and install the latest update. This annoyance could indicate either a minor or major problem. If you're lucky, your system's date and time settings are inaccurate. Double-click the date and time listing in the System Tray to make sure each setting is correct. If they're not, correct them and then download and install your antivirus software's most recent update.

If that doesn't work, or if the date and time settings are correct, you might already have **malware** (malicious code, such as viruses) interfering with your security software. Many forms of malware try to prevent programs from working properly, and if you're infected, you'll have a tough (if not impossible) time getting that program to find and eliminate the malware or spyware. If you suspect that your security program isn't working as it should, download and run McAfee's free AVERT Stinger (vil.nai.com/vil/stinger), a standalone program that checks for and removes common infections.

Firewall Annoyances

Sometimes a firewall is too stringent for its own good, and that's when we need to get really crafty.

WinXP's firewall prevents sharing. The Windows Firewall with SP2 (Service Pack 2) can prevent many network-based attacks, but it also can prevent file sharing over a local network. If you're using the Windows

Firewall but can't share files (and you already disabled the firewall to test that it is indeed the problem), you can configure it to allow sharing. Open the Windows Firewall dialog box from the Control Panel and choose the Exceptions tab. Select the File And Printer Sharing checkbox, choose the Advanced tab, select the Local Area Connection option, and click OK.

This annoyance also can occur with other software-based firewalls, but you can change their settings to allow local file sharing. For example, in Sygate Personal Firewall (free; smb.sygate .com/products/spf_standard.htm), click Tools, click Options, and choose the Network Neighborhood tab. Choose your local network adapter under Network Interface, select both entries under Network Neighborhood Settings, and click OK.

Firewall blocks access to trustworthy programs. One of the most frustrating security annoyances occurs when your firewall prevents one of your programs from accessing the Internet or prevents a program on the Internet from accessing your PC. Sure, you can disable the firewall altogether to allow access to these programs, but then you'll leave the rest of your system vulnerable to attacks.

Check that the program isn't in the firewall's list of blocked programs. If it is, change the program settings to allow network access. For example, in Sygate Personal Firewall, click the Applications button and then click the box to the left of a program to change its status from Block to Allow.

If the program doesn't appear in the firewall's application list, you should

If your system's date and time are incorrect, your security software might claim that you need to download updates, even if you already did.
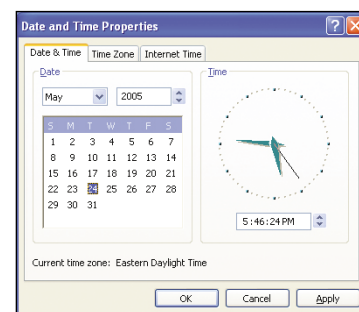
enable firewall logging to see what port the firewall is blocking. First, clear any existing logs in the software (or in the firewall's software interface, if you use a hardware-based firewall), and then enable the logging features and immediately use the previously blocked program. When the firewall blocks the program, check the logs to see what port(s) the firewall blocked. You can then use the firewall's advanced settings to enable access for that port.

Internet Annoyances

In the often ironic world of computers, conveniences sometimes make life more difficult, and this is especially true when it comes to the Internet.

Cookies continuously blocked. Depending on your Privacy settings in Internet Explorer, you might run into trouble with certain sites that require cookies to retain registration information and other settings. However, with a few tweaks, you can ensure that IE doesn't block any cookies you don't want it to block, all without compromising your overall privacy settings.

In IE, open the Tools menu, click Internet Options, and choose the Privacy tab. For good overall security, you should set the cookie slider to Medium High (or even High), but doing this could block certain cookies that you'd like the program to allow. By using Per Site Privacy Actions, you can specify sites whose cookies IE should allow. Click the Edit button, type the site's URL (uniform resource locator) in the Address Of Web Site field, click Allow, and click OK. (If you ever want to remove a site from the list of allowed sites, simply select the site in the Managed Web Sites list, click Remove, and click OK.)

Outlook blocks too many attachments. Perhaps the most notorious of all security annoyances is Microsoft Outlook's default configuration that blocks access to a horde of different types of file attachments. Included in Outlook 2003, Outlook 2002, and Outlook 2000 SP3, this feature can protect you from dangerous attachments, but it's generally counterproductive, especially if you already know how to deal with suspicious attachments.

By modifying the Registry (again, see our "Find More Online" sidebar for a Registry-related article), you can force Outlook to allow access to certain file types. Before working with the Registry, back it up and set a new Restore Point. Then, close Outlook, open the Registry Editor, open the Start menu, click Run, type **regedit** in the field, and click OK. Browse to the following key: HKEY_CURRENT_USER\SOFTWARE\MICROSOFT\OFFICE\11.0\OUTLOOK\SECURITY (for Outlook 2000 SP3, substitute *9.0* for *11.0*; for Outlook 2002, substitute *10.0* for *11.0*).

Add a new String Value (right-click blank area on the right and click String Value) and type **Level1Remove** to name it. Press ENTER. Double-click the new value, and in the Value Data field, enter the file extension of each file type you'd like to allow, separated only by semicolons (with no spaces). For example, if you want to allow screen saver files and executable files, type **.scr;.exe** in the field and click OK. Close the Registry Editor and then restart Outlook.

Proceed With Caution

Although a security-related annoyance might tempt you to disable the security product or feature altogether, don't do it; just remember that these products will

If your firewall is blocking specific access into or out of your system, use its logging features to determine which ports the firewall is blocking.

usually still protect you from dangers, even if they're not working exactly as you'd like them to work.

Several of the annoyances discussed in this article can be enormously irritating and require immediate attention, but that doesn't mean that smaller annoyances are any less important. When you find any security-related annoyance or problem that interferes with your computing, don't let it burn you; instead, check for configuration settings that let you change the program's behavior.

And keep the security software running until you find a way to eliminate the configuration problem. Or, if you can't seem to overcome annoyances with a certain product, consider switching to an alternative application. Like many other utilities, most security software is flexible enough to supply an acceptable amount of security without compromising convenience. ▐▌

BY CHRISTIAN PERRY

On such a nice day,
don't you want to go outside and play?

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W hat good is a computer if you can't share files with other people? The Internet and networks help us easily send and receive pictures, letters, and other files, but the complexity that often accompanies computing means there are bound to be some snags along the way. We tackled some of these annoyances and found solutions for them, so they need not irritate you any longer.

Email Annoyances

Practically everyone with a computer uses email, and practically everyone who uses email has been ready to throw their computer out the window at one time or another. If these virtual exchanges are getting you down, read on.

You keep getting email from a particular address you want to block. Spam filters that automatically dump unsolicited emails into the trash continue to improve, but they aren't perfect. To truly take control of your inbox, set up filters that help sort the wheat from the chaff.

For example, in Yahoo! Mail (mail.yahoo.com), click Mail Options, Filters, and the Add button. You can enter any number of rules in this window (typing the sender's email address in the From Header field is a good place to start) and select Trash from the Move The Message To drop-down menu. To completely block specific email addresses, click Mail Options, click Block Addresses, type the email address in the Add Block field, and click the Add Block button.

Filters also are available in all of the popular standalone email clients. For example, in Microsoft Outlook 2003, you can right-click a message, click Create Rule, and then choose the conditions you want to apply to all emails of that type before clicking OK.

People say that the pictures you email extend past the edges of their displays. Digital cameras take bigger, clearer pictures than ever before, but even though this makes digital photos more suitable for printing, it doesn't necessarily make them the ideal size for email attachments. Get into the habit of resizing images before emailing them to others by using a program such as PhotoFiltre (free; www.photofiltre.com) or Adobe Photoshop Elements 3.0 ($99.99; www.adobe.com).

To do this in PhotoFiltre, for instance, open the image you want to email, expand the File menu, click Save As, and enter a new name to create a copy. Next, expand the Image menu, click Image Size, make sure the Preserve Aspect Ratio checkbox has a check mark, and adjust the Width setting to a smaller size (the Height settings will change automatically). A good compromise is to set the Width at 1,024 pixels, though you can play it safe by setting the Width at 800 or 640 pixels. If you email one of the image sizes we suggested and the photo still doesn't fit on the recipient's screen, decrease its size by another notch.

You can't access your email accounts through both a Web-based interface and an email client. If you have email service through an account with an ISP (Internet service provider), one of the nicest aspects of

Dysfunctional Communications
Cut Off Networking, Emailing & Web Surfing Annoyances
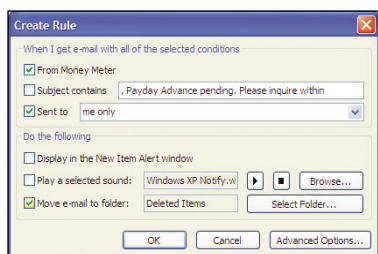
Filters and rules let you take control of your email account's inbox.

a Web-based account (such as Yahoo! Mail) is that it lets you check email from your ISP account while you're on the road. But if you don't configure this feature properly, the email on the ISP's server is deleted when you check it from the Web-based account, meaning you can't download the email messages to your standalone email client (such as Outlook Express) later.

To resolve this situation, tell your Web-based email account to copy the email messages but leave the originals intact on the ISP's server. In Yahoo! Mail, for example, click Mail Options, click Mail Accounts, select the name of the account that's causing problems, and click the Edit button. Make sure the Leave Mail On POP Server checkbox has a check mark before clicking Save Changes, and you'll be able to look at email from the road and then download it all to your standalone email software when you return to your home or the office.

Internet Annoyances

Where would we be without the Internet? Some users might say we'd be "in a happier place." But getting online seems to be half the battle when it comes to the Information Superhighway, so we tried to find some repairs for at least some of the major potholes.

Your Internet connection drops occasionally. This is a common problem for dial-up modem users (but broadband customers aren't completely immune to it, either). With dial-up connections, there is a good chance that Windows is set up to automatically disconnect the Internet connection when the connection is idle for a specific period of time. This can be a good thing if you need to free up the phone line and your spouse is forgetful about disconnecting after an Internet session, but if you don't like this feature, you can adjust the time period or disable the feature completely.

In Windows XP, open the Start menu, click Control Panel, double-click Internet Options (from the Network And Internet Connections category), choose the Connections tab, and select your dial-up connection from the list. Next, click Settings, click Advanced, and either change the value in the Disconnect If Idle For X Minutes field or deselect the checkbox to disable the feature. Click OK to close the dialog boxes.

In Windows 98/Me, open the Start menu, choose Settings, click Control Panel, and double-click Internet Options. Choose the Connections tab, select your dial-up connection, click the Settings button, and then click the Properties button. Now adjust the time period in the Disconnect If Idle For X Minutes field or deselect the option's checkbox. Click OK to close the dialog boxes.

Broadband disconnections usually result from power or service outages. If you have a cable modem, turn on the TV to see if you can still view cable channels; if you have DSL (Digital Subscriber Line), pick up the phone to see if you still have phone service. If not, you'll have to wait until the respective service is restored and then reboot your modem. Don't use the modem's on/off button to do this; instead, unplug the power cord from the back of the modem, wait 10

Making large images smaller will help everyone when distributing photos via email.

seconds or so, and then plug it back in. If this fix doesn't work, unplug the modem's power cord, hold down the modem's reset button, and then plug the power cord back in while holding down the reset button.

Squares with red Xs appear on Web pages and in emails. These red Xs are placeholders that you'll see when the associated images aren't available for display. Sometimes an image doesn't show up because your email software or Web browser is configured to hide images, but in most cases (especially while Web browsing), a red X indicates that the image is no longer available.

If you never see any images, your software is probably configured to hide all pictures. To modify this setting in Internet Explorer, open the Tools menu, click Internet Options, choose the Advanced tab, and scroll down to the Multimedia section. Make sure Show Pictures is selected and click Apply.

If you have the most recent version of Microsoft Outlook 2003, you may have noticed that it hides pictures by default to make sure viruses and other malicious files don't find their way onto your computer via that avenue. If you know an email is legitimate and your want to see its graphics file attachment, just right-click the red X and click Download Pictures.

If you're browsing and can see some pictures but not others, the problem is most likely caused by an error on the Web server that hosts the pictures. Right-click the red X, click Show Picture, and see if the image loads. If not, there's a problem with the Web server and the picture is unavailable, but at least you know the trouble isn't on your end of the connection.

Even with a broadband connection, uploading large files is

extremely slow and sometimes fails completely. Many people don't realize it, but when broadband services advertise their maximum speeds, they are always referring to download speeds. Uploading speeds, especially for cable modem services, tend to be a small fraction of the maximum download speed, and it often takes forever to send large email attachments or upload large files. If this is a big problem for you, contact your ISP to see if it has another customer plan that allows for faster uploads, but be prepared to pay a hefty price.

Most ISPs also limit the amount (total maximum size) of email messages and attachments that can be uploaded at once, with some services setting the cap as low as 2MB. If you try to send files that are larger than the maximum size limit, they may appear to upload but the process will ultimately fail.

Again, you can upgrade your account, but that's an expensive option. Instead, consider purchasing an inexpensive Web hosting account with an ISP that allows for FTP (File Transfer Protocol) access. That way, you can upload your large files to that space

using an FTP client such as SmartFTP (free; www .smartftp.com). Then your friends and family members can download your files from that FTP server space instead.

After updating to IE's latest version, you can't access some Web sites. Microsoft upgraded IE with a host of new security features, including a blacklist of sites that are known to contain adware and/or spyware that tracks your browsing habits. Unfortunately, some legitimate sites are associated with sites on the blacklist, and when you try to access these sites, a red circle with a white stripe appears at the bottom of the browser window, indicating that you're being blocked from visiting a restricted site.

The good news is that the blacklist is easy to edit. Open the Tools menu, click Internet Options, choose the Security tab, select the Restricted Sites icon, and click the Sites button. Scroll down the list until you find the site you want to visit, click its name, and click Remove. Make sure you check

the spelling carefully when removing a site from this list because many of the restricted sites use names or Web addresses that are only one letter different from a legitimate site name or Web address.

Networking Annoyances

Few things are as convenient as a home network, but at the same time, few things are as frustrating as networking computers and peripherals. If you aren't getting the speed you expected, can't transfer files, or some other network vagary is annoying you, the following tips can help you regain your sanity.

Although your wireless router is supposed to support a high speed, file transfers are very slow. The newest wireless routers and related hardware advertise speeds in excess of 100Mbps (megabits per second), but they don't bother to tell you about the hoops you must jump through to achieve those high data transfer rates.

First of all, if any hardware on your wireless network uses 802.11b instead of a newer standard such as 802.11g, it will never transfer data faster than about 10Mbps. And even if all of your hardware uses 802.11g, you may see data transfer rates of 50Mbps or possibly a little faster on a good day under ideal circumstances, but that kind of performance is rare because of range and interference issues.

Generally, to achieve the 100Mbps or faster speeds touted on the box, all of your wireless hardware must come

You can adjust the amount of time that Windows waits before automatically cutting off your Internet connection.

When getting email from your ISP's (Internet service provider's) server via a Web-based account's interface, make sure you copy the email messages instead of downloading them.

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Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.
To:

Right-click here to download pictures. To help protect your privacy, Outlook prevented automatic download of this picture from the Internet.

Download Pictures
Change Automatic Download Settings...
Add Sender to Safe Senders List
Add the Domain to Safe Senders List

here you have consented to receive updates, offers, or promotions.
is as provided by the sender at the bottom of this email.

Right-click here to download pictures. To help protect your privacy, Outlook prevented automatic download of this picture from the Internet.

Click Here Now to Claim your FREE Visa Gift Card!

Right-click here to download pictures. To

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When you see squares with red Xs, right-click them and click Download Pictures if you want to see the associated images.

and Win98 Second Edition. We don't have room in this article to detail the installation procedure for ICS via all of these operating systems, but if you look at our "Find More Online" sidebar, you'll see an online article you can access for more information.

Other Options

One general theme we've detected from a majority of the problems our readers submit is improperly configured software. All it takes is a check mark in the wrong checkbox to trigger headaches that are seemingly impossible to solve, so if a program is giving you trouble, check its specific Options dialog box to find settings that may fix the problem. In most programs, you'll be able to access some type of Options dialog box via the software's Tools menu. In addition, you can reconfigure most routers by launching your Web browser and typing **192.168.0.1** in the Address field. Just don't experiment with any settings until you find the option that returns everything to the software's default settings— some advice we've had to learn the hard way. ▮

BY TRACY BAKER

from the same manufacturer, and it all must support the same speed acceleration technology. In addition, you must enable that technology using the router's interface, and you may need to enable it on the other network devices, so read the manuals carefully for instructions on how to properly set up everything.

Connecting two computers via an Ethernet cable doesn't work. Your desktop PC has a NIC (network interface card), and your laptop has a NIC, so shouldn't you be able to just attach an Ethernet cable between them and start sharing data? Not exactly. Standard cables are designed to attach to a hub, which we recommend if you want to set up a home network. (By the way, all routers for consumers have integrated hubs that let them connect four or more network-ready devices at once.)

If you're serious about only connecting two computers, however, visit an electronics or computer store and tell them you want a 10/100 Ethernet crossover cable. These cables are wired differently than standard Ethernet cables, so they'll let

you directly connect two computers. Just remember that if you want to share an Internet connection between two computers, at least one of them will need to have two NICs installed: one for the Internet connection and one for the direct connection to the second PC.

You also need to have ICS (Internet Connection Sharing) installed—a feature supported by WinXP, WinMe,

Find More Online

Our Web site has detailed information on all of the topics we only had room to briefly cover in this article. We listed a few articles below to jump-start your research.
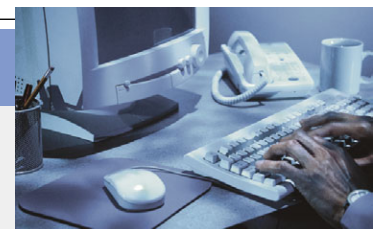
Stop Spam Now: A Filter Or Two & Some Common Sense Will Help Keep Your Inbox Clutter-Free
www.smartcomputing.com/scnov03/spam

Dial-Up Dilemmas: Ways To Configure & Troubleshoot Your Modem
www.smartcomputing.com/lssep03/modem

ICS Me ASAP: The Right Approach For Internet Connection Sharing
www.smartcomputing.com/lsoct03/ics

Weren't home computers supposed to help us use less paper? Now that it's cheap to print everything from color Christmas letters to studio-quality photo prints at home, printers are more important than ever, but there's a price to pay for this convenience. The more you print, the more chances your printer has to misbehave. Maybe it's eating paper. Perhaps it's printing photos that look more like finger paintings than portraits. Whatever the case may be, if your printer is bothering you, there are many ways to make it shape up and work properly.

Output Annoyances

If you're like us, you spend so much time trying to get something to look right on-screen that you don't have the patience to spend as much time trying to transform your on-screen text and/or images onto paper. Don't make the mistake of taking out your frustrations on your printer; instead, read our tips to find a way to solve or work around the problem(s).

Paper always jams in the printer. Few printer annoyances are as obnoxious as paper jams. While there is nothing you can do to completely eliminate jams, there are a few steps you can take to avoid them and fix a jam once it occurs.

Many photo printers pass paper straight through the system without making it curve at all, and you should be able to use thick paper with these types of printers without experiencing too many problems. Most paper jams occur when laser printers curl the paper around a complicated route, where any misalignment along the way can knock the paper off of the path and jam it into the printer. Make sure all paper is lined up as straight as possible when loading paper trays, and hand feed thicker sheets or envelopes through the system using the manual slot (if one is available) instead of stacking them in the auto-feed tray.

If the printer does jam, try not to pull the paper backward through the system or you risk damaging fragile gears and other mechanisms. Pop open the printer's cover and gently pull the paper through the system in the direction it was intended to go. Some printers have labels on or near the
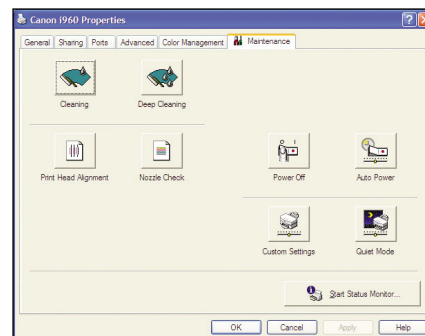
Running a cleaning utility is a good way to restore image quality when the printer hasn't been used in a long time.

rollers that can guide you through this process. (See the printer's manual for more details.)

Printer picks up multiple sheets of paper at once. If your printer grabs two or more sheets of paper out of the tray at the same time, consider switching to a slightly thicker or thinner paper to see if that solves the problem. Some newer printers have paper-thickness levers that users can adjust to accommodate various types of paper, so check those settings, as well. Also, consider moving the printer to a room with less humidity, as that can interfere with the effectiveness of the rollers and also make paper stick together. If none of these options work, the pickup rollers are likely worn, and you'll need to have the printer serviced professionally.

Your photo printer smears ink on images. Inkjet printers can output some incredible images, but they use so many ink nozzles that things can easily go wrong, leading to smeared images. The solution in many cases is maintenance. When inkjets sit idle for long periods of time, ink in the nozzles

Make Print Jobs Get Back To Work

Deal With Printing Annoyances & Improve Output

So you just splurged on a nice color laser or photo printer, but the images it outputs are blocky and grainy, and they lack vibrancy.

dries out, and the plugged nozzles either don't work at all or they spray ink wildly, making printouts look terrible.

In many cases, it's possible to use software that came with the printer to run a cleaning utility that's designed to blast the caked ink out of the nozzles. To access this feature (assuming it's available; software varies from printer to printer), open Internet Explorer (or any other application with a print feature), click Print from the File menu, select the problematic printer, and click Preferences. In the resulting dialog box, find the tab containing the cleaning utility (often marked Maintenance) and run the cleaning utility.

If your printer has a Print Head Alignment utility, which lines up the separate layers of color, run this software, too, and your printer should be good as new. If not, use the printer's cleaning utility to clean it again a few times. If those attempts fail, you may have to purchase new ink cartridges. Be aware that the cleaning procedure blasts a stream of ink through all of the nozzles, so the process does consume a lot of ink.

Photo prints look terrible. So you just splurged on a nice color laser or photo printer, but the images it outputs are blocky and grainy, and they lack vibrancy. There are several potential causes for this, but the most likely culprit is the paper. Even the best photo printer outputs horrible pictures on standard office paper, and you'll need to buy true photo-quality paper —preferably from the printer's manufacturer—for the best results.

In addition, make sure you tell the printer what type of paper is loaded because it bases the quality of its output on the type of paper it thinks it is printing to. Even if you have high-quality photo paper

loaded, the printer may think that only standard copier paper is loaded and print at a much lower-quality setting. The process for doing this varies according to the software from which you are printing, but it generally involves opening the File menu, clicking Print, selecting the inkjet printer, and clicking Properties or Preferences to select the paper type.

Ink also can be a problem. Printer manufacturers devote a lot of resources to formulating ink that works well with their products, and if you decide to save cash by purchasing off-brand ink cartridges, your printouts probably will suffer.

Beyond ink and paper, the printer's settings are another source to check. You can access these settings by launching IE, clicking Print from the File menu, selecting the icon which represents the printer that's causing problems (on the General tab), and clicking Preferences. The Printing Preferences dialog box varies according to the printer and installed drivers, but there are several common settings that can interfere with image quality.

If the printer is in a draft mode, select the highest-quality setting to
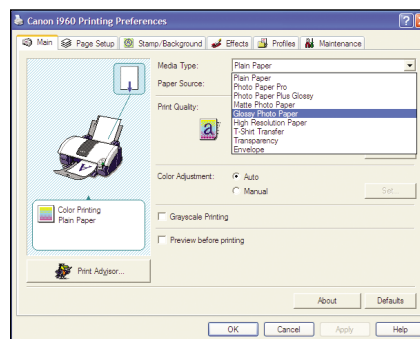
If you don't tell the printer that you've loaded photo paper, it won't print at its highest possible quality.

dramatically improve your prints. Sometimes a reduction/enlargement setting is in effect that enlarges or shrinks images, thereby affecting their quality, so be sure this setting is at 100%. Most color laser printers and photo printers have image settings that let users control brightness, contrast, and other aspects of the image, but only advanced users should mess around with these advanced options.

One quality-related problem that isn't always easy to fix is **banding**, where lighter and darker horizontal bands of color alternate throughout the print. Light bands are usually the result of ink nozzles that are clogged or misaligned, whereas dark bands often are caused by problems with the printer's paper feeder. To fix light bands, use the printer's cleaning and alignment utilities (consult the printer's manual for the recommended procedures). You can sometimes fix dark bands by switching to a thinner paper or by adjusting the printer's feeder to accommodate thicker paper. If banding continues to be a problem, you may need to replace the printer's cartridges or have it professionally serviced.

Laser printouts look bad. Laser printers have a lot of complicated internal hardware that can hurt printout quality if they break or wear out. Sometimes users will see random spots that appear white even though they are supposed to be black; this indicates a problem with toner distribution in the print cartridge. Remove the cartridge, gently shake it to redistribute the toner, and see if that helps solve the problem. If not, it's time for a new toner cartridge. Other common problems, such as horizontal black lines appearing on pages, also are things you can fix by simply replacing the toner cartridge.

If small specks of white appear at random where there's supposed to be toner, there may be a problem with the printer's fuser, which heats the toner as pages come out of the printer. A bad fuser usually requires professional service for a repair or a replacement.

Miscommunication Annoyances

Isn't it nice to talk to someone who will *really* listen? Printers aren't always as accommodating, but there are some things you can do to improve your communications with these peripherals.

Your computer always prints to the wrong printer. With printer prices falling, it's common for households to have one workhorse machine that does the bulk of the printing and an extra photo printer for crisp images. The problem is that you don't want plain printouts to go to the photo printer, but your computer doesn't know the difference. The solution is to set the printer used for black-and-white printouts as the default printer, which is very easy to do, regardless of which Windows version your PC uses.

Windows XP users should open the Start menu, click Control Panel, click Switch To Classic View (if necessary), and double-click Printers And Faxes. Right-click the printer you want to use as the default printer and click Set As Default Printer. (If a check mark appears next to the printer's icon, it's already designated as the default printer.)

Windows 98/Me users will need to open the Start menu, choose Settings, and click Printers. Next, they should right-click the appropriate printer's icon and click Set As Default.

A printer keeps outputting color when you want black and white. Color printouts are nice, but they also are expensive—10 times (or more) the cost per page compared to black-and-white printouts. If your color printer isn't configured properly, it may output color even when you don't want it to, such as when you want to print a Web page for its textual content, not its color graphics.

You can check your printer's manual to find out how to configure it for black-and-white printing each time you want to avoid printing in color, but the process is time-consuming and easy to forget. We recommend installing the same printer two times: once in a color configuration and once in a black-and-white configuration.

Then you can set the black-and-white configuration as the default printer and only select the color configuration when you are sure you want to print in color. This type of arrangement also works well when family members share a printer, and you want to cut down on printing expenses.

To do this in WinXP, open the Start menu, click Control Panel, click Switch To Classic View (if necessary), and double-click Printers And Faxes. Click the Add A Printer link in the left pane and follow the wizard's instructions, installing the printer just as you did the first time but giving it a different name this time around.

In Win98/Me, open the Start menu, choose Settings, and click Printers. Double-click the Add Printer icon and follow the wizard's instructions to install the printer the same way you did the first time but assign a different name to it.

After you install the printer for the second time, select the newly installed printer and configure it for black-and-white output only (according to the instructions in the printer's manual). Then, use the steps we outlined in the previous tip to set the black-and-white configuration as the default printer and only use the color configuration when necessary.

You can only print when a particular computer is turned on. An ever-increasing number of households have multiple computers, and it certainly makes sense to share printers among all of those systems. Unfortunately, if the printer being shared is attached to a particular computer, that computer must be turned on before any other computer on the network can access the printer.

The easiest but most expensive way to solve this problem is to purchase a print server and connect it to the entire network. Next, connect the printer to the print server so anyone using the network can use the printer. On the other hand, many printers sold these days come with integrated network hardware, which lets users

attach the printer directly to a network router or hub using an inexpensive Ethernet cable, thereby helping all the other computers on the network use the printer. The latter option is much cheaper, assuming your printer is network-ready.

Download & Update

Even if you and your printer are getting along fabulously, you need to make sure you regularly check the manufacturer's Web site for driver updates. The printer's driver helps it communicate with Windows, and new drivers do everything from fixing pesky bugs to adding new features. New drivers may even make your printouts look better. Besides, they're free to download, so what are you waiting for? ▮

BY TRACY BAKER

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Although it's tough to beat the convenience of CDs and DVDs, it's similarly tough to avoid annoyances inherent with these optical discs. Whether you encounter persistent problems when burning discs, can't watch your DVD movies, or can't manage to read your CDs, disc annoyances are nearly inevitable.

But unlike many other computer annoyances, we can usually trace CD and DVD problems to small trouble areas that are easy to remedy. When you can identify those areas and understand how to target them, you can rest assured that future problems with optical discs usually will take only a few moments to fix.

Recording Annoyances

Remember when we all had tape decks and all we had to do is insert a tape or two and press down the record button(s)? Well, things might seem more complicated nowadays, but keep in mind that the sound quality you hear when you play discs is much better than those crummy tapes, so tackling a couple of annoyances is probably worth the trouble.

Buffer underruns ruin your discs. Unless you need to expand your coaster collection or hang something tacky from your rearview mirror, buffer underruns are your worst enemy when burning CDs and DVDs. Today, most burners (that is, rewriteable drives) include some type of feature to prevent buffer underruns, but even this feature doesn't work all of the time.

Buffer underruns occur when the burner attempts to access data faster than the computer can deliver it. If data isn't available when the burner comes to get it from a special buffer area intended to provide a steady flow of data from the source (such as a hard drive), the burner will stop the session abruptly, ruining the disc.

You can take plenty of steps to avoid buffer underruns. Make sure that your computer's specifications are high enough to accommodate recording because if your CPU is too slow, your hard drive doesn't have enough free space, or you don't have enough RAM, you'll have problems.

Check the documentation included with your burner for the minimum specifications required for recording.

Your hard drive and Windows environment should both be in good operating condition. This means your hard drive should be free of errors and regularly defragmented, and your Windows Temp folder (C:\WINDOWS\TEMP)
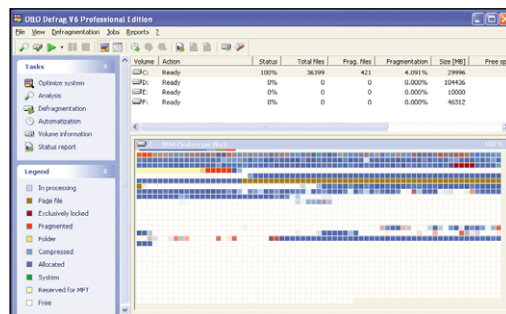
Heavily fragmented hard drives can cause problems during the burning process, so be sure to regularly defragment your hard drive to prevent buffer underruns.

should be regularly cleaned. When you delete files from the Temp folder, use the Windows Disk Cleanup utility or manually delete files from the folder containing modification dates prior to the current date. You also should have the latest drivers installed for all of your hardware devices.

Before burning, close all open programs, including any programs running in the background (the System Tray will often display the icons of background programs). You also can try using a different brand of media or recording at a slower speed. If you're having buffer underrun problems while copying a CD, copy all of the data to a hard drive before recording.

Disc Disturbances
Stop Those CD & DVD Annoyances In Their Tracks

Unlike many other computer annoyances, we can usually trace CD and DVD problems to small trouble areas that are easy to remedy.

Burning is slow. You just upgraded to a faster CD or DVD burner, but recording is slower than you expected. To avoid buffer underruns, most new rewriteable drives employ protective technology that lets recording safely halt when data isn't available from the buffer and then restart when it is available. However, this technology can slow the recording process to ensure a perfect burn.

The less your drive needs to use its buffer-underrun protection, the faster it will be able to burn your discs. Therefore, the solutions discussed in the previous tip for preventing buffer underruns also apply when you're trying to speed up your recording. If your drive doesn't encounter such problems as a fragmented hard drive, programs running at the same time, and other things that might interfere with the process, it can burn your disc at the speeds you expect.

Slow burns also can occur when copying a disc directly from another optical drive, especially if the burner is trying to access data faster than the other optical drive can provide it. Unfortunately, you can't speed up this process, but you can address problems when copying a CD or DVD using only your burner (and not a second optical drive). Because the burner will place the contents of the source CD or DVD on your hard drive, you must again ensure that your hard drive is defragmented and has plenty of free space to accommodate the disc's contents.

Reading Annoyances

Regardless of whether the problem of reading discs stems from faulty media, buggy software, or malfunctioning hardware, you can usually find a solution that isn't too complicated. Let's examine some common problems and determine how you can remedy them and/or avoid them in the future.

Trouble accessing CDs or DVDs. Optical discs are a flaky bunch. Although most work without a hitch, others never seem to work, regardless of their apparent condition. Sometimes discs will technically work fine, but may not be working if you don't have Windows configured to play the discs the way you'd prefer them to play. If you insert a disc in your CD or DVD drive and can't access the disc's contents, use the troubleshooting advice in the following paragraphs to diagnose and fix the problem.

If you're expecting the disc's contents to execute or play automatically, you'll need to make sure Windows AutoPlay is correctly configured. To enable AutoPlay for data discs in Windows 98/Me, right-click My Computer, click Properties, choose the Device Manager tab, click the plus sign (+) beside the CD or DVD drive, and then double-click the drive. Next, choose the Settings tab, select Auto Insert Notification, and click OK to close the dialog boxes.

For audio discs in Win98/Me, right-click My Computer, click Explore, open the Tools menu, and click Folder Options. Choose the File Types tab, select CD Audio Track or AudioCD in the list, and click Edit (Win98) or Advanced (WinMe). Under Actions,

Like fragmented hard drives, a jam-packed Windows Temp folder can interfere with disc burning, so clean it out as often as possible.

double-click Play. (If Play doesn't appear here, click New, type **Play** under Action, and then double-click Play under Actions.) In the Application Used To Perform Action field, type **c:\windows\cdplayer.exe –play** (where **c** is the drive on which Windows is installed). Click OK close the dialog boxes. If you want to use a different media player to play your audio discs, simply change the location and executable name in the Application Used To Perform Action field.

To enable AutoPlay for data and audio discs in Windows XP, right-click My Computer, click Explore, right-click the CD or DVD drive, and click Properties. Choose the AutoPlay tab, select the content types you'd like to address, and select an action to perform for each. Click OK.

If you purposely disabled AutoPlay and click the CD or DVD drive in Windows Explorer but can't access the disc's contents, chances are good there is a problem with the disc itself. But to rule out any hardware problems, insert another disc or two; if no problems occur with those discs, it's time to inspect the problematic disc. Remove it and look for dirt, smudges, or scratches. You can clean dirt or smudges by using a soft, cotton, lint-free cloth to wipe the disc from the inner hole outward—never use circular motions to clean the disc. If there's a large scratch on the disc, you can try using a scratch-repair kit or device. If the disc appears fine, try shooting a blast of compressed air toward the lens of the drive (the drive door needs to be open for you to see the lens).

If the disc is factory-stamped (that is, it's a retail music or data disc, not a

previously blank disc you burned), problems are usually caused by smudges or scratches. But if you can't access a burned disc, there may have been a problem with the recording process. Try burning the data or audio files again on a different disc—preferably on a different brand of media.

If it's only a single file that you can't access on a burned disc, check the original file on your hard drive or the source disc to see if you can access it from there. If you can, a problem during the recording probably affected the file, so try burning another disc to see if it fixes the problem. If you can't access the original file, it's likely corrupted, and unfortunately, there's not much you can do until you obtain another (uncorrupted) copy of the file.

Can't access any CDs or DVDs. When you can access some discs but not others, the problem usually lies with the discs themselves, but when you can't access any discs, hardware is almost always the culprit.

First, shut down and unplug your PC, open the PC case, and ground yourself by wearing an antistatic wristband or by touching a metal part of the case (make sure you don't touch anything outside of the case, or you'll need to reground yourself). Check that the IDE (Integrated Drive Electronics) cable running between the rewriteable drive and the motherboard is firmly connected on both ends; if you're not sure, remove each end and reinsert them.

If you have two optical drives connected to a single IDE port, make sure all cable ends are firmly connected. If one of those drives is a DVD drive, check the jumper settings on both drives to make sure that the DVD drive is set as the master and the other drive is set as the slave. Also, check the drive manufacturer's Web site for any available firmware updates. If there's an update available for your drive, download and install it, carefully following the manufacturer's directions.

Burned music won't play. When you burn an audio CD and insert it in

a stereo CD player, personal CD player, CD component, or car CD player, the equipment should treat it as a factory-stamped CD. But due to differences between stamping and burning, not all burned audio CDs play nicely with CD players.

If you have problems getting your audio CDs to work on players other than your PC's optical drive, first check that you created an actual audio disc and not a data disc. To create an audio disc, the burning software must covert MP3 files to a format that's readable by audio equipment, so simply moving MP3 files intact to a disc won't work unless the CD player can indeed play MP3 files (and many can't). When you burn the disc, check the software settings and make sure you create an audio or music disc rather than a data disc.

If your audio discs still won't play, try burning the CDs at slower speeds. Also, even though those cheap, generic packages of blank CDs might look tempting, stick with major-brand CD-R (CD-recordable) media because these discs are generally more reliable. Avoid using CD-RW (CD-rewriteable) media for audio discs, as opposed to CD-R media, and always finalize your burning sessions (an option found in most burning applications).

Can't watch DVD movies. When you install a CD drive, you can usually insert any type of CD and instantly read, execute, or listen to the information on the disc. However, when you install a DVD drive, you need to install DVD-decoding software before you can watch DVD movies. If your drive didn't include the type of software that lets you decode and watch DVDs (or if you lost it), consider buying a premium viewer such as interVideo's WinDVD 7 Gold ($49.95; www.intervideo.com) or CyberLink's PowerDVD 6 Standard ($39.95; www.gocyberlink.com). If those products are too pricey, download the free Media Player Classic from www.divx-digest.com/software/media _player_classic.html.

Find More Online

If you need more information on dealing with CDs and DVDs, please see the SmartComputing.com articles listed below.

What's Wrong With My CD-R?: End The Confusion Regarding Sessions
www.smartcomputing.com /scfeb04/cd-r

- -

Optical Checkup: Maintain Your CD Or DVD Drive
www.smartcomputing.com /scsep03/optical

- -

Whoa, Hoss, Slow & Steady: Set CD-R Writing Speed
www.smartcomputing.com /lsaug03/cd-r

Disc Doctor

Most annoyances related to CDs and DVDs stem from a poorly maintained hard drive, cheap media, and rough disc handling. By regularly defragmenting your hard drive, avoiding generic blank CDs and DVDs, and handling your discs with care, you can banish the most frustrating disc problems for good.

When you do encounter an annoyance that you can't solve, don't be quick to trash the disc or point fingers at your drive. Simply rebooting your PC can help your drive or Windows recognize a disc that previously refused to work. If you do find a unique solution to a nagging problem, be sure to write it down or save the instructions in a text file for the next time it rears its ugly head. ▌▌

BY CHRISTIAN PERRY

Lutron®: personalized one-touch dimming for your entire home.

Integrate all your lighting into one-touch keypads that are as personalized as your home with a HomeWorks® total lighting control system.

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Cooking
Entertain
Dining
Late Night
All Off

Actual size:
Custom engraved seeTouch® wall control in Satin Colors™ stone.

❄LUTRON
Lutron controls your light.™

There you are, working late at night on your computer, when suddenly things don't look quite right. You rub your eyes, but it doesn't get any better. The monitor's screen has an odd tint to it, or the display seems too light, or you start to wonder if those dirty spots on the edges of the screen are really dirt. Chalking it up to fatigue, you shut down and turn off the PC, only to find that the problems persist when you restart your system in the morning.

Display annoyances can be frustrating because there are so many reasons why things can go wrong in this area of computing: Incompatibilities between your video card and other PC components, loose wires, and worn-out parts are just some of the possible culprits. These annoyances can affect not just "still" pictures on your display but videos, as well. Plus, display problems can lead to eyestrain, headaches, and other physical maladies. So rather than suffer, we invite you to take a look at the following solutions to some of the most

Display annoyances can be frustrating because there are so many reasons why things can go wrong.

common display-related and video-card related annoyances.

Display Annoyances

If your monitor or LCD (liquid-crystal display) isn't working properly, you'll usually know about it right away. Instead of seeing a clear, crisp Windows logo appear on-screen as your PC runs through its startup routine or instead of viewing your colorful Desktop wallpaper, you'll see a black screen, an off-center display, wavy lines, constant flickering, or something else that immediately tells you that your monitor or LCD isn't having a good day.

Monitor screen is completely dark. You know the PC is turned on and working because you can hear the fan running or see the lights on the PC's case, but the monitor shows nothing but a black screen. Most likely, you have an issue with the power to the monitor. The first item to check is the on/off switch on the monitor. (You might be tempted to place this under the "well, duh" category, but don't be embarrassed; this or something similar has happened to all of us at one time or another.)

If pressing the switch doesn't help, unplug and firmly replug the monitor's cables and cords, test the outlet by plugging in

another appliance that you know works, and then reboot your system.

Screen is still black. If the previous fix didn't work, it's possible that you've upgraded some components and your new monitor is incompatible with your old video card, or your old monitor doesn't work with your new video card. You'll need to check with the devices' manufacturers about compatibility or possibly upgrade a driver.

But if you haven't recently upgraded any of these devices, it's possible that your monitor has blown a fuse. Although we routinely guide our readers through many types of hardware replacements, this isn't one of them. Monitors carry high voltages, and it can be dangerous to even open a monitor case. Contact the manufacturer to see if you can safely replace the fuse or whether you should take it to a professional.

Monitor has flickering screen. One of the causes of screen flicker, especially on CRT (cathode-ray tube) monitors, is a screen refresh rate that is set too low. In general, it's best to set the refresh rate to the highest possible setting.

In Windows XP, right-click the Desktop, click Properties, choose the Settings tab, click the Advanced button, and choose the Monitor tab. In the Screen Refresh Rate drop-down menu, select the highest possible rate,
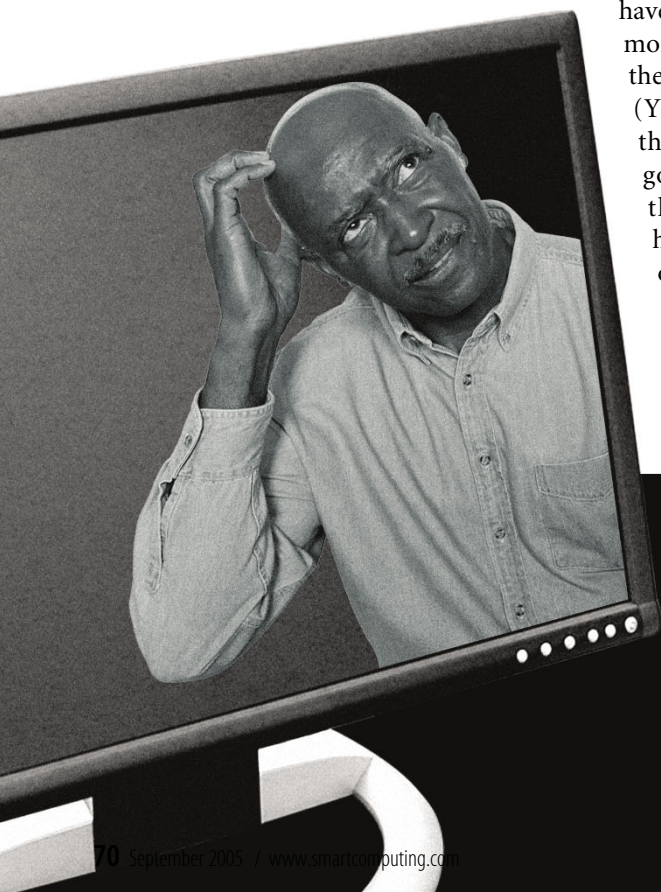
Not A Pretty Picture
Focus On Display & Video Card Annoyances

and if you see a Hide Modes That This Monitor Cannot Display checkbox, select it. Click Apply, and if prompted, click Yes to keep the new settings. Click OK to close the dialog boxes and save your settings.

In Windows 98, right-click the Desktop, click Properties, choose the Settings tab, click the Advanced button, and choose the Adapter tab. Select the highest refresh rate from the drop-down menu, click Apply and OK.

Other causes of flicker can include a bent or broken pin or a loose cable connection. Also, it's possible that the video card has become loose and needs to be removed (clean the card's contacts while it's out of the computer) and reseated. (*Don't forget to discharge any static electricity you may be carrying before touching any of the components inside your computer case.*)

Screen is too dark or too light. Most monitors and LCDs have buttons on their front that control display features, such as contrast and brightness. Each monitor is different, so we can't provide you with step-by-step instructions here, but we suggest that you check the manual, experiment with the various buttons, and/or visit the manufacturer's Web site for details on how to adjust the contrast and brightness. Adjusting the room's lighting also can help, particularly if you work in a room with overhead florescent lights.

Display area or some program windows don't properly fit screen size. This is one issue that epitomizes the word "annoyance." Yes, you can still work while you're viewing an off-center Desktop area (with a black border along one side) or looking at an Internet Explorer window that's too large for the screen (and requires you to scroll both horizontally and vertically to see Web pages). But doing so is very irritating.

To fix an off-center Desktop area, familiarize yourself with your monitor's OSD (on-screen display), which you can access via the buttons

on the front of the monitor. The buttons let you move the display horizontally or vertically so that the Desktop is properly centered on-screen.

To make your program windows the appropriate size, it may help to change the resolution. Open the Display Properties dialog box (right-click the Desktop and click Properties), choose the Settings tab, move the Screen Resolution slider to the right (how far you move it will depend upon its initial setting), and click OK. The higher the resolution is, the smaller program windows will be. Then you can maximize each program window by clicking the Maximize button in the upper-right corner of the window.

Can't view all of software window's contents. If you've recently switched from a CRT monitor to an LCD, you may have trouble adjusting your eyes to the LCD's native resolution. That's because LCDs typically have higher default resolutions to provide a clearer picture. The downside to this is that the content within program windows may appear too small on-screen.

Some LCDs don't let you adjust the resolution down to, say, 800 x 600, so their resolution settings remain "stuck" at 1,280 x 1,024 or 1,024 x 768. In cases like these, your best option is to change the settings within an application's window. For example, if you're using a word processing program such as Microsoft Word, you can change the text size by going to the Format menu, choosing Font, and selecting a higher font size. If you're viewing files in Adobe Reader, you can increase the file size percentage via the top menu bar. And if you're using IE, open the View menu,

A high refresh rate can eliminate the type of on-screen flickering that induces headaches.

choose Text Size, and select Large or Largest.

Permanent "stains" appear on-screen. Magnetization can build up in CRT monitors; sometimes this occurs because of interference from other devices. This magnetization can lead to spots on-screen—often around the edges. Newer CRT monitors typically **degauss** when you turn them on, which means they remove external magnetic forces that can interfere with the monitor's display. If you have an older monitor, however, look for a manual degauss button and press it. This fix may not completely remove the spot, but it will at least lessen it.

Display has dead or lit pixels. Did you recently purchase your LCD? If so, you may be in luck. Most manufacturers carry pixel-defect policies, whereby if a certain number of pixels are **dead** (show no color at all) or **lit** (stuck in the "on" position so that they constantly appear red, blue, or green), they will replace the LCD. If the manufacturer won't provide a replacement, however, perhaps the retailer will. Other than that, there's very little you can do to fix this type of irritation. While it's theoretically possible to gently rub a screen to resurrect a dead pixel, you risk far more damage to the pixels around it if you do so.

Video-Related Annoyances

Of course, you can't blame *all* display problems on monitors and LCDs—video cards and other hardware devices cause a fair share of video-related problems, as well.

Can't transfer home video from digital camcorder to PC. There are

many possible culprits here, and one of the most common is that the computer doesn't detect the camera when you connect it to the PC. Make sure the cable is plugged in firmly. Then, take a look at the manual to see whether you must manually turn on the camera in order for the PC to recognize it; keep in mind that some devices communicate with the PC only if they are turned on and set to a special transfer mode. If you're using a USB connection, try plugging the camera into another USB port. If none of these solutions help, you may need to download an updated driver for the camera or install a "fresh" driver from the camera's CD because the installed driver somehow became corrupted.

Video file on my computer won't play. Because video files are relatively large, they use algorithms called **codecs** (compressor/decompressor) to make them easier to store and transmit over the Internet. There are several formats for digital video, and each one uses its own codec. It's possible that the software you're using to play the video doesn't have the proper codec.
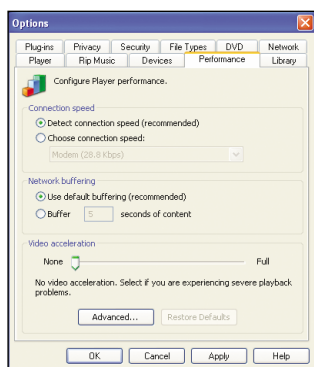
If you're using Windows Media Player 10, open the Tools menu,
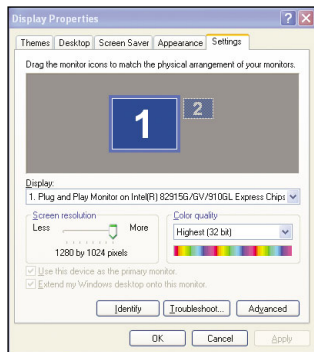
Improper screen-resolution settings can make the display difficult to read.
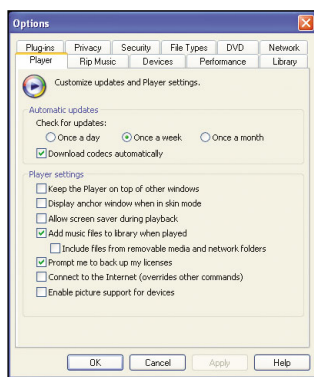
To play a video on your computer, you'll need to have the proper codecs installed.

Is streaming video jerky instead of smoothly streaming to your Windows Media Player? Try decreasing the video acceleration.

select Options, click the Player tab, select the checkbox next to Download Codecs Automatically, and click OK. Now try to play the video again.

Or perhaps you might want to visit GSpot (www.head bands.com/gspot) to analyze a video's codec. Missing codecs also can be the source of trouble when you try to import multimedia files into Windows Movie Maker.

Video playback is jerky or flickers. We mentioned earlier that obsolete or corrupted drivers can be a major contributing factor to video problems. If the video playback is jerky, distorted, filled with error messages, or you see other annoyances, your first step is to download and install the most recent driver for your video card and OS (operating system). Check the video card manufacturer's site for more details.

If the previous suggestion doesn't work, and you're watching streaming video from the Internet via Windows Media Player, it may help to change your video acceleration settings. From the Tools menu, select Options, choose the Performance tab, and move the Video Acceleration slider to the left (which may take some experimentation to determine whether you should move

Find More Online

At SmartComputing.com, we've written several other articles that deal with similar issues. For more information, be sure to search our site and check out the articles we listed below.

Basic Troubleshooting: Video Cards & Monitors
www.smartcomputing.com /scsep04/video

Put The Best On Display: Get The Picture With Video Cards
www.smartcomputing.com /lssep03/display

Get The Picture: Transport Images From Your Camera To Your PC & Printer
www.smartcomputing.com /lsmar03/pictures

the slider partially or all of the way). Click OK.

Get Back In Focus

These are just a few of the exasperating situations you might run into when dealing with display or video issues. If there's an annoyance we haven't covered here that still bothers you, we recommend three general courses of action. One, make sure you've installed the most recent drivers for your hardware and OS. Two, check for nearby devices that may be causing interference, such as another monitor. And three, consider the age of your monitor (or other related hardware). Monitors don't last forever, and that screen flicker, screen tint, or other symptom may be telling you that it's time to upgrade. ▌▌

BY HEIDI V. ANDERSON

From PC To TV

Be A Multimedia Maven With A Wireless Media Player

After hearing your grandchildren prattle on and on about the ease and convenience of digital music download services, you've decided to give it a try. What may have started with downloading Bruce Springsteen's new "Devils & Dust" album has led you to amass an eclectic digital music library ranging from ABBA to Warren Zevon.

These digital tunes may be perfect to listen to when you're checking your email or scanning pictures, but when you want to share your collection with a larger audience, those PC speakers suddenly don't provide the best venue.

However, there are a slew of devices that help you free your media files from the confines of your PC. With the right equipment, you can listen to your digital tracks on your stereo or watch that video file of Junior on your big-screen television. With a digital media player, your entertainment options become a lot broader.

Wireless Media Players

When you're ready to really host an entertainment extravaganza, a wireless media player is the last piece of a pretty slick puzzle you probably weren't even aware you were putting together. Wireless media players unite your home entertainment equipment with your PC via a wireless network. Some are limited to serving up audio tracks (and are consequently a little cheaper), but others cater to a more diverse palate.

We chose D-Link's MediaLounge Wireless Media Player DSM-320 ($189;

> As always, you should be concerned about the security risks associated with adding a device to your wireless network.

Why spend several thousand dollars on a Media Center PC when a wireless media player will do the trick for a fraction of the cost?
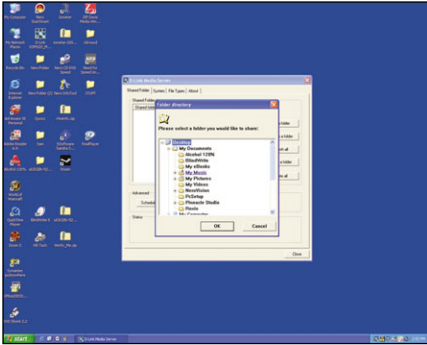
After you click Add A Folder, select the folders on your PC you want to share and click OK. When you close the dialog box, the D-Link Media Server will continue to run in the background.
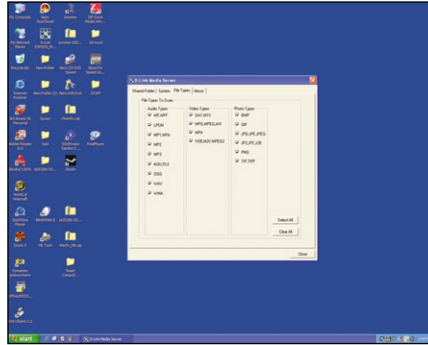
When selecting the types of media files you want the DSM-320 to scan your PC for, it's best to cast a wide net.

With digital audio outputs, you won't need to sacrifice audio quality when you stream your MP3s to your stereo.

www.dlink.com), but networking companies such as Linksys and NETGEAR make similar products. With virtually the same look as most DVD players, the DSM-320 fit right in with the rest of our home entertainment equipment. Although we ran S-Video and composite audio cables from the DSM-320 to our television, the DSM-320 has all of the most commonly used A/V outputs. The DSM-320 has the following outputs: composite, component, and S-Video video outputs and composite, coaxial, and optical audio inputs.

We also liked the DSM-320 because it's compatible with a broad array of media formats. Audio aficionados will find support for MP3, WMA (Windows Media Audio), and WAV files. The DSM-320 also works with Radio@AOL, Napster, Rhapsody, Live365.com, and My Kid'sTunes.com online music services. The digital shutterbug will be able to share the following image formats: JPEG (Joint Photographic Experts Group), JPEG2000, TIFF (Tagged Image File Format), GIF (Graphics Interchange Format), BMP (bit map), and PNG (Portable Network Graphics). Videophiles can stream (unlike waiting for a media file to download in its entirety before you can watch or listen to it, streamed files play as they're downloaded) their MPEG (Motion Picture Experts Group) 1/2/4, AVI (Audio-Video Interleaved), and XviD files. When D-Link adds support for a new file, you can download the upgrade directly to the DSM-320.

As always, you should be concerned about the security risks associated with adding a device to your wireless network. Although it's highly unlikely a hacker could infiltrate your wireless network through a media player, D-Link took precautionary measures and included 128-bit WEP (Wired Equivalent Privacy) with the DSM-320.

Ready, Set, Stream

Our PC runs Windows XP as its OS (operating system), but Win98 Second Edition/2000/Me are also compatible. We inserted the DSM-320's installation CD in our PC's CD drive and clicked D-Link Media Server Installer when the auto-install application launched. (If it doesn't launch, click Start and My Computer and double-click your CD drive's icon.) Next, we clicked WinXP/2000. In the Setup – D-Link Media Server window, we clicked Next, I Accept The Agreement, Next, Next, and Next. We decided to add a Desktop icon for the application, so we clicked the Create A Desktop Icon checkbox and Next. You can also add Quick Launch and startup icons at this step if you wish. We clicked Install and waited for the installer to work its magic.

Once the software installation was complete, we clicked the Launch D-Link DSM320 MediaServer checkbox and Finish. In the D-Link Media Server dialog box, we clicked the File Types tab and selected the files we wanted to share with the DSM-320. You may notice some of the files, such as M3U, aren't actually audio files. Rather, they're playlists that instruct the D-Link software to play a specific list of songs.

Next, we clicked the Shared Folder tab and the Add A Folder button. This step is important because it designates which folder(s)' contents the D-Link Media Server will stream to the DSM-320. In the Folder Directory dialog box, we clicked the My Music folder and OK. If you have media files in several folders, you can click Add A Folder and add as many folders as you need to. We clicked Close to finish setting up the software. We kept our computer on while we set up the DSM-320. The D-Link Media Server continued to run in our System Tray.

Setting up the player itself is just like adding a new piece of home entertainment equipment. First, we screwed in the DSM-320's wireless antenna. We used the composite audio cable D-Link included with the DSM-320 and ran it from the DSM-320 to our television, but you can run it to a receiver or anything with a matching audio jack. You'll need to supply your own optical or coaxial audio cable.

D-Link supplies both a composite video and S-Video cable, and we used the S-Video cable because it provides better picture quality. If your television can handle component video, we recommend purchasing component cables. You should be able to find a basic set of component cables at most home electronics retailers for about $20.
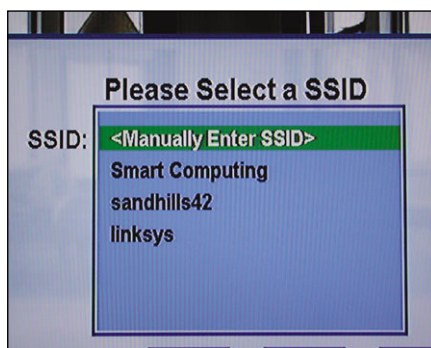
Notice the thin box surrounding the colored box containing the SSID (Service Set Identifier). After you push the Enter button, you can select the appropriate SSID.
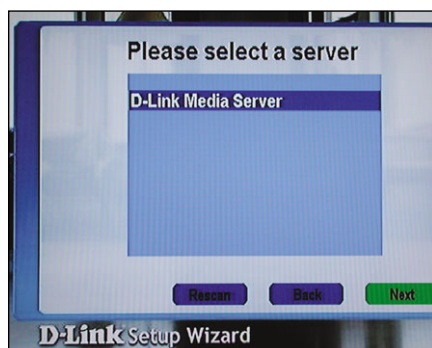
Once you've properly configured the DSM-320 and incorporated it into your wireless network, it will seek out the D-Link Media Server on your PC.

Attaching the DSM-320's antenna is a necessary first step.

Although we've emphasized the convenience having a wireless media player, the DSM-320 has a LAN (local-area network) port for wired networks. Running Ethernet cable to your router may not have the same aesthetic flair as connecting wirelessly, but it will save you the cost of buying a wireless router if you don't have one.

Next, we turned on our television and set it to the video input that corresponded with the DSM-320. When we turned on the DSM-320, it launched the Setup Wizard. Using the DSM-320's remote control, we pressed the Enter button (the Enter button doubles as one of the remote's play buttons and is located in the bottom-right corner of the remote) to advance to the next screen. We pushed Enter again and used the remote's navigational buttons to give a personalized name to our DSM-320. We pushed Enter to select each letter, and when we had given our DSM-320 its own name, we highlighted the on-screen ENTER key and pushed the Enter button on the remote.

Once we had named our DSM-320, advancing to the next screen was a little tricky. Instead of pushing the remote's Next button (which is located in the bottom right corner of the remote), we had to push the down navigational button so the on-screen Next was highlighted. We pushed the Enter button to advance. Because our connection was wireless, we pushed the down navigational button and the Enter button.

It's difficult to see, but at the Please Select The SSID (Service Set Identifier, the name of your wireless network) screen, in the box containing the SSIDs, the DSM-320 is surrounded by another box. We pushed the Enter button and pushed the navigational button to select the wireless network our PC was connected to. After we highlighted the correct network, we pressed the Enter button, the down navigational button, and the Enter button.

At the Your Current Wireless Settings screen, we pushed the down navigational button until we highlighted Next. We pushed the Enter button to advance to the next screen, Your Current Network Settings. In the Configuration box, we had to change Static IP to DHCP, but you'll want to check your network's settings to select the right configuration. We pushed the down button and the Enter button when we highlighted Next.

The DSM-320 searched for media servers and found the D-Link Media Server after a few seconds. At the Please Select A Server screen, we pushed the down navigational button and the Enter button. At the last screen, the DSM-320 notified us the setup was complete, and we pushed the Enter button to launch the Media-Lounge Entertainment Network.

Running the MediaLounge Entertainment Network (this is basically the DSM-320's main menu on your television) is like navigating through a DVD's menu. Using the navigational buttons in the center of the DSM-320's remote, we navigated to the type of media file we wanted to play (in this case, Music) and pressed the Enter button. Thanks to the D-Link remote, we could operate the DSM-320 like any other home entertainment system component. After the initial setup, we were pleased the DSM-320 behaved more like a DVD player than a PC.

Now Serving: Everyone

If you want to cut down on the number of devices filling up your home entertainment center, D-Link also makes the DSM-320RD ($269), which essentially combines the DSM-320 with a progressive scan DVD player and 5-in-1 memory card reader (digital camera enthusiasts will no doubt be delighted with the latter feature).

We'll probably never see music and movies abandon brick-and-mortar storefronts in our lifetime, but buying your favorite songs or films is as simple as a few mouse clicks. Media players are still an emerging technology, so it may be too early to tell if one day they'll become as ubiquitous as DVD players. On the other hand, keeping your music collection on your PC and playing it on your home theater system has an undeniable cool factor.

Who knows? With a wireless media player, you may never set foot in a music store again. ▌▌

BY VINCE COGLEY

Microsoft Excel 2002

14 Cool Settings In The Options Dialog Box

Spreadsheet

Beginner

2002 for
Win9x/NT
4.0/2000/XP

Everybody loves top-secret control panels. Sci-fi heroes use them to reprogram evil robots, and Excel users have their own for fiddling with little-known program settings. The 13 tabs in the dialog box, available through Tools and Options, control dozens of functions. Many things you control here are fairly boring, and, to be honest, there's no good reason to change many of them. But the Options dialog box has a handful of features all Excel users should know about. Here are 14 of the handiest.

- **Use one Taskbar button for all Excel documents.** Excel normally places a separate button on the Taskbar for every open document. When your Taskbar gets crowded, uncheck the View tab's Windows In Taskbar box to have one button represent everything open in Excel.
- **Change Gridline color.** If a color other than black is easier on your eyes (or just more to your liking), use the View tab's Gridlines Color drop-down menu to choose a different hue.
- **Switch to manual calculation.** Excel normally recalculates formulas when values they depend on change. To limit recalculation to times of your choosing, click Manual on the Calculation tab. It's probably wise to leave Recalculate Before Save selected.
- **Change next-cell selection.** When you enter information into a cell and press ENTER, Excel selects the cell below the one you were working in. If your data entry lends itself to moves in another direction, maybe to the right, change the selection process with the drop-down menu below Move Selection After Enter on the Edit tab.
- **Turn off AutoComplete.** Whether you've grown a little touchy because of a co-worker who's always finishing your sentences or have other reasons for tiring of AutoComplete, you can tell Excel to quit anticipating what you're going to type by turning it off on the Edit tab.
- **Eliminate Paste Options button.** Are you wondering about that mysterious little clipboard icon that pops up whenever you paste information? It's a Paste Options button. If you've never used its features, you might as well shut it off on the Edit tab and declutter your screen a bit.

Dive into a new level of control over Excel's functions by tweaking a few settings in the Options dialog box.

- **Turn off Tooltips.** Simple visuals are a virtue to many users. If you're one of them and have all the toolbar buttons figured out, head to the General tab and shut off the labels that pop up when you point to buttons.
- **Change number of recently used files.** The File menu shows the last four files you've opened, but you can change the number to anything—as long as it's from 1 to 9—on the General tab.
- **Zoom with IntelliMouse.** Perhaps the coolest feature in the Options toolkit is the General tab's Zoom On Roll With IntelliMouse feature. If your mouse has a scroll wheel between the buttons, you can use the feature. Check the box, and you can zoom in on spreadsheets by rolling the scroll wheel forward (or up) and zoom out by rolling the wheel backward. Note that enabling this feature means the scroll wheel no longer works for moving up and down spreadsheets.
- **Change the default font and its size.** This one's self-explanatory, so head to the General tab and start customizing.
- **Modify AutoRecover.** This saves your work every 10 minutes, preventing disaster if you're a lousy saver and Excel (or your entire PC) shuts down. The Save tab lets you change the frequency of saving, edit the location where the backup files go, and turn off AutoRecover.
- **Customize AutoCorrect.** We all have words we never seem to type correctly. Use the Spelling tab's AutoCorrect Options button to set up Excel to turn the word "Missori" to "Missouri" or correct any other personal spelling problem.
- **Turn off Cell Drag And Drop.** You may not know that you can cut and paste a cell by clicking it, waiting for the four-headed arrow to appear, and dragging to a different cell. But if you do, and you accidentally move information around, turn the feature off on the Edit tab.
- **Reduce sheets in new workbooks.** Although this column has often preached the power of using multiple worksheets, how frequently do you actually do it? If you're still trying to remember the last time, maybe you should simplify your new workbooks by cutting each one back to a single worksheet. You can change the number on the General tab and still insert extra sheets when you need them via the Insert menu. ▐▌
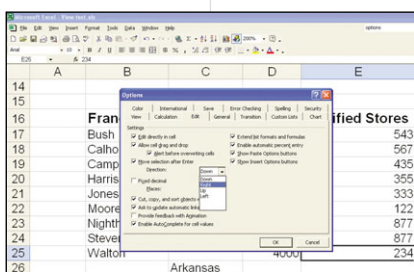
BY TREVOR MEERS
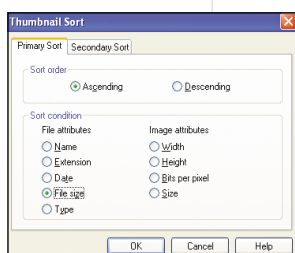
Jasc Paint Shop Pro 8
Discover Its Browser Tool

Image Processing

Beginner

8 for
Win98SE/Me/
NT 4.0/2000/XP

*(NOTE: Corel
acquired Jasc
Software, so the
most recent
version, Paint
Shop Pro 9, may
list Corel as the
developer.)*

Your OS (operating system) has a handy, built-in organizational tool, but when it comes to managing graphics files, Windows Explorer has one main drawback: You can't open the files you're trying to copy, delete, rename, or otherwise organize in Paint Shop Pro. That's where Paint Shop Pro's Browser comes in; it lets you easily view, open, and arrange your photos and other image files from within the program.

Open Paint Shop Pro's Browser by going to the File menu and selecting Browse. This opens the Browse window, which displays a list of your folders in a directory-tree structure in the left pane and thumbnails of images (stored in the folder you most recently opened with Paint Shop Pro) in the right pane. Via the left pane, browse your folders until you locate the files you want to manage.

Use the
Thumbnail Sort
dialog box
to organize
your thumbnails
by file size or
other criteria.

The Context Menu

You can use several Windows commands when working with these thumbnails. Take renaming files, for example. Right-click a thumbnail (or select it and press CTRL-R) and select Rename from the context menu. Keep in mind that the Browser won't add an extension, so leave the existing file extension in place. For instance, if the file is named 050326HP1.jpg, and you want to change it to something more intuitive than a date and a string of characters, you can give it a name such as MatthewParty.jpg. Click OK.

To move a file, right-click a thumbnail and select Move To. In the Browse For Folder dialog box, find the desired destination and click OK. To copy a file, follow the same procedure but select Copy To instead of Move To.

Paint Shop Pro's
Browser tool lets
you easily view,
sort, select, rename,
copy, delete, and
otherwise manage
your graphics files.

You also can paste the graphics file directly into an application that supports OLE (object linking and embedding), such as Microsoft Word. Open Word (or another application), minimize its window, and make sure Paint Shop Pro's Browser is the open window on top. Press ALT, select the thumbnail, and drag it to Word's button (its minimized window) on the Taskbar. Then, after maximizing Word's window, you can release the ALT key (but not the mouse button). Next, drag the pointer to wherever you'd like to place the graphic (in the Word window) and release the mouse button.

You also can delete files with Paint Shop Pro's Browser. Right-click a file and select Delete. In the Confirm File Delete dialog box, click Yes, and the file goes straight to your Recycle Bin.

Sorting & Selecting

You can delete and otherwise manage files en masse, as well. To select all the files in a folder, press CTRL-A (or open the Edit menu and click Select All). Then, right-click any of the thumbnails and select the desired option (Copy To, Move To, Delete, etc.). Oops . . . didn't mean to select them all? Press CTRL-D (or open the Edit menu and click Select None). To select only a few files, press the CTRL key and click each file you want to select.

In addition, you can use the Invert Selection command. Suppose you have a folder containing 50 files, and you want to select 49 of them. Rather than selecting each one individually, save yourself some time; select the one file you don't want, open the Edit menu, and click Invert Selection.

Plus, you can select a group of files based on a common characteristic. From the File menu, choose Select. In the Select dialog box, make your file choices according to various features, such as type, file size, date, width, bits per pixel, and more. Once you've made your selections, click OK.

Paint Shop Pro's Browser also includes another set of useful organizational tools that you can use to sort items. By default, files are placed into a folder in alphabetical order, with file names beginning with numbers appearing at the top of the list. Just as you can select thumbnails by characteristics, you can sort them that way, as well. From the File menu, choose Sort. In the Sort dialog box, select the appropriate radio buttons on the Primary Sort and Secondary Sort tabs (ascending or descending, followed by a characteristic such as name, extension, date, or size) and click OK.

The bad news is that sorting thumbnails is a never-ending process, and the next time you add files to a particular folder, they will display at the end of the list. The good news is that Paint Shop Pro's Browser tool is so easy to use that organizing these new files will be a snap. ▮

<div align="right">BY HEIDI V. ANDERSON</div>

USE YOUR BRAIN

left side | right side

Portable Audio for iPods

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BOTH SIDES

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Online

Build A Second Brain With pbWiki

You may have heard of Wikipedia, the online encyclopedia at www.wikipedia.com that anyone can add to or edit. But you may not realize the potential of less-ambitious "wikis" in other walks of 'Net life. The free wiki site, pbWiki (www.pbwiki.com), is trying to change that.

The developers behind pbWiki promise that a **wiki** (a free-form site that uses a simple format, making text easy to edit) is as easy to create as a peanut butter sandwich. With a pbWiki, you—or anyone else who has your password—can edit pages without knowing HTML (Hypertext Markup Language), and the changes are instantly viewable to other wiki readers. A wiki can be your calendar, task list, group hub, or all-around second brain. To give it a try, go to the main pbWiki page, type a name for your wiki, and provide an active email address. The password will be sent to the email address you entered; when you receive the email, follow its instructions to log on.
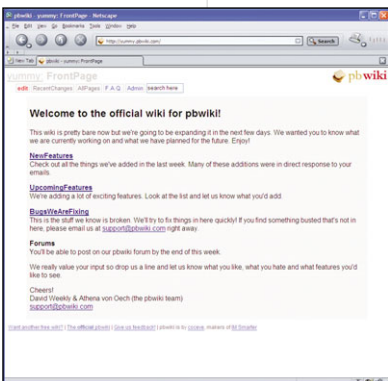
Wiki Work

Your new wiki has a few default pages that you'll notice the first time you visit. The front page is the most important because it serves as the main gateway to your wiki pages. At the moment, the front page includes some general wiki info and tips, but you can easily edit out these details to create your own customized front page.

To edit any wiki page you encounter, click the Edit button near the top of the window. A new page with an editing window then appears. Inside this window is the text of the wiki page with some simple formatting codes. For example, in pbWiki, an exclamation point at the beginning of a line indicates a bold heading, and an asterisk denotes a bullet point. This doesn't seem like much compared to fancy word processors, but those two codes let you make simple lists and section off text for easy navigation. You'll find more editing codes at the bottom of every Edit window.

The front page can be anything you like. It can point to other pages using links (more on links in a moment), offer tasks you want to track, or serve as a place to jot down notes of any kind. You can save lists of books you want to read, note Web sites you

regularly visit, monitor appointments, or keep track of anything you might write on sticky notes.

When you finish writing content for your page, click Update. The Web browser then reloads your wiki page so that you can view it (and change it) from anywhere in the world.

Link Up

The best part about a wiki is the ability to quickly add links to other pages in your wiki or to any site. Like many other wiki programs, pbWiki recognizes words with multiple capital letters as hyperlinks. For instance, you might want to link from your front page to a new page listing tasks you want to remember. While editing the front page, type **ToDoList** (without spaces) in a conspicuous area and click Update to save the change.

Afterward, you should see a new ToDoList hyperlink on your front page. Click the link and you'll see a new, blank wiki page with the same title. Click the Edit button and start typing all of the mindless activities you need to perform. And whenever you need a link to a new or existing page, just type the title of the page (without spaces).

Safe Keeping

Is pbWiki around for the long haul? It's hard to say. Wiki itself is an idea quickly spreading into the consciousness of the typical user, but the stability of any Web site without the words "Google" or "Yahoo!" in the title is difficult to predict. (OK, we might be exaggerating just a bit.)

Fortunately, pbWiki makes creating a local backup of your data simple. Go to the Admin page on your wiki and look for the Backup section. Although this page may change soon, there should be a button or link for making a ZIP file of your wiki. Clicking this command lets you save a copy of all your wiki pages in a text format. Although using HTML would be nice to preserve all the links on your wiki pages, a text file is best for reimporting the info into another wiki.

The pbWiki developers promise to make numerous improvements to the site in the weeks and months to come, so go build your own wiki and see what it can do for you. ▌▌

With pbWiki, you can keep track of personal and/or group information for free from anywhere on the Internet.

BY ALAN PHELPS

Microsoft PowerPoint 2002
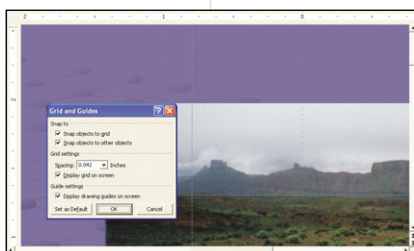
Tools For Aligning Items

A little tidiness goes a long way toward making slides more understandable and professional-looking. Three photos that don't quite line up, for example, send a subtle signal that the presenter's a bit sloppy.

The good news is that keeping things neat on your slides is a lot easier than staying organized at your house or office. With all the alignment tools built into PowerPoint, there's no reason not to have every item on a slide perfectly squared up.

Fans of precise, hands-on design will probably find all the tools in this article handy. But if you're simply looking for the fastest way to line things up on slides, jump to the "Align Or Distribute" section of this article.

Using a combination of grids, guides, and rulers, you can make sure every item on a slide lines up perfectly.

Use The Grid

Turning on the grid lays a matrix of dotted lines across the slide, giving you some parameters for placing objects, whether you're moving them around or drawing on the slide for the first time. The lines won't show up when you print slides or display them in Presentation View. Choose View and Grid And Guides to get started. (You also can access these controls by clicking the Drawing toolbar's Draw button and choosing Grid And Guides.)

At the top of the dialog box, you'll see the snap-to functionality is selected by default, making objects jump into place along any grid line they come near. If you'd rather not use it, uncheck the box. You also can override the snap-to function by holding down the ALT key as you drag an object.

Sometimes you'll need the edges of several objects to line up perfectly along the same line, but you're placing them between grid lines. You can still use snap-to functionality to keep the look tidy. In the Grid And Guides dialog box, check the box beside Snap Objects To Other Objects. When you drag one photo to a position above another photo, you'll see the active photo snap into line along the same vertical axis as the photo already in place.

Use Guides

The Grid And Guides dialog box also includes a Display Drawing Guides On Screen checkbox.

The guides are like a simpler grid that you can place wherever you want. The guides consist of one vertical and one horizontal line running across the slide. By default, their intersection is centered on the slide, but you can move each guide wherever you need to by clicking it and dragging. They're perfect for setting a baseline for lining up any kind of objects you're placing on the slide. Like the guides, they feature snap-to functionality.

Whenever it looks like an additional guide could be handy for your work, click one of the existing guides as you hold down the CTRL key. Drag the mouse, and a new guide will slide out of the existing one. You can do this as often as you need to with both the horizontal and vertical guides.

Use The Ruler

Let's say you're creating slides for a presentation at an engineering conference, and you're looking for the utmost in precise slide design. If you insist on exact measurements, use PowerPoint's rulers to know exactly where every item sits on a slide. Choose View and Ruler to display rulers on the top and side of the Normal View window.

Small lines on the horizontal and vertical rulers track the pointer's position as you move the mouse, and when you drag an item such as a photo, its edge is tracked with the lines on the ruler. When an object is selected, the zero points of the rulers are centered on the slide. When you're working with the cursor inside a text box (when you're actually editing text), the zero points are relative to the top-left corner of the text box.

Align Or Distribute

All this lining things up can get pretty tedious, even with the aid of guides, grids, and rulers. The fastest way to have neat rows of photo, text boxes, AutoShapes, and other slide objects is to select them as a group by clicking each one as you hold down the SHIFT key. Now you can use the Draw button's Align Or Distribute selection to align items along any of their edges. If you have several items that you want to evenly space across a slide, choose the options for Distribute Horizontally and Distribute Vertically. ▌▌

BY TREVOR MEERS

Adobe Photoshop 6.0
Use Filters To Create Backgrounds

The Filter menu in Photoshop is full of endlessly tweakable tricks for creating designs that are well-suited for backgrounds. This month, we'll show you how to use these filters to create beautiful backgrounds from ordinary outdoor images. Then, we'll give you a few ideas for overlaying photos and text. (This tutorial requires familiarity with Photoshop's Layers feature, which we've covered in previous Adobe Photoshop Quick Study articles.)

Before we start, look through your digital archives and select three graphics files of outdoor photos. For our examples, we used close-ups of leaves, flowers, and a rock garden. Choose two portrait shots, as well. Place copies of these files into a temporary folder. That way, when you finish following our directions, you can save or delete the copied files without changing the originals.

How Filters Work

Photoshop filters are **algorithms** (mathematical formulas; sets of instructions) that can "read" the color values of individual pixels. This lets a filter define the edges of shapes within an image and manipulate those shapes. By making simple selections from the Filter menu, we can give our images texture and even distort them.

When you open the Filter menu and look at the options in the submenus, keep in mind that an ellipsis symbol after a filter name indicates you can adjust the filter's settings. After implementing the settings we suggest, you can open the Edit menu and click Undo to experiment with other settings. When you're satisfied with the adjustments that a particular filter makes to an image, save the image as a new file.

Film Grain. Let's start with an artsy filter. Launch Photoshop and open one of your outdoor images. Next, open the Filter menu, choose Artistic, and click Film Grain. This filter gives images an interesting blended look, which is especially effective for low-contrast (even-toned) images. Change the value in the Grain field to 3 or 4. To avoid a washed-out look, set the value in the Highlight Area field to 3 or 4. And to keep the colors from looking oversaturated, change the value in the Intensity field to 3 or 4. Click OK.

The Film Grain filter turns a low-contrast photo into an interesting image.

Glass. Open another photo. From the Filter menu, choose Distort and click Glass. Set the value in the Distortion field to 7; set the value in the Smoothness field to 3; and select Frosted from the Texture drop-down menu. Click OK, and you'll see your image display as if you were viewing it through frosted bathroom glass.

Twirl. For a whole new effect, try Twirl. Open another image and click Filter, Distort, and Twirl. Set the Angle field to 50 and twist the image from its center—just like a pinwheel. Click OK.

Stained Glass. To see the Stained Glass filter in action, open an image and click Filter, Texture, and Stained Glass. Set the values in the Cell Size and Border Thickness fields to 3. The smaller the cell size and the thinner the border, the more recognizable the image is. Keep the Light Intensity field set at a medium level of 5. Click OK.

Grain. For the next image, click Filter, Texture, and Grain. Set the Intensity value to 40 and change the Contrast value to 50. Select Speckle from the Grain Type drop-down menu (scroll down). Click OK. This type of effect will make your photo look like an ink-and-watercolor painting. For an entirely different look, keep the Intensity and Contrast fields at the same values, but set the Grain Type drop-down menu to Horizontal. Click OK. Now we've given our image a deep, gothic feel.

The Foreground Layer

After creating all of these backgrounds, what can you do with them? These images provide unusual and customized bases for greeting cards, postcards, and Web banners. To overlay a personalized image on a background, choose one of your portraits. Using the Magnetic Lasso tool, select the individual within the portrait. (Set the Feather option to 5 pixels to keep the edges soft and let them blend in with the background.) Copy the selected portion of the portrait and return to the background image. Create a new layer and paste the selected portion. Then, if you wish, create a new layer and use the Text tool to type your message "over" the image.

Of course, there's much more you can do with these types of projects. Keep experimenting with various filters and options, and you'll soon come up with some unique creations of your own. ▌▌
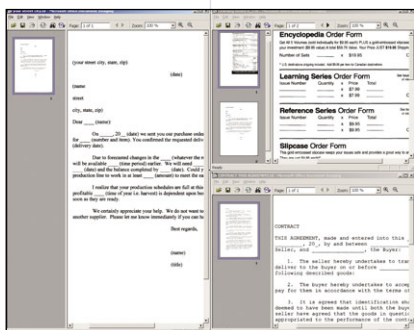
BY MARTI LACHANCE

Microsoft Word 2002

Scan & Process Paper Documents, Part III

During the last two months, we looked at how to set up Microsoft Office Document Imaging, including creating presets, setting the resolution for the scan, and other options. We performed a scan at the end of last month's article. We'll finish up by looking at the scanning process and how to organize your work.

Let's review what we have learned so far by creating another scan of a single page. Turn on your scanner. Click Start, Programs, Microsoft Office Tools, and Microsoft Office Document Imaging. Place a letter-sized, black-and-white document, such as a form that has blanks to be filled in, on the scanner bed or in the automatic document feeder.

Click File and Scan New Document. Choose the Black And White preset and deselect Original Is Double-Sided and Prompt For Additional Pages. Check View File After Scanning. Click the Scan button. A scan of the page is created and appears in the right pane. A thumbnail of the page appears in the left pane.

Now click View and Reading View so you can see how the scan turned out. Reading View makes it easier to read scanned documents on the screen. It presents the current document and hides most nonessential screen elements.

Check the scan and look for any errors to see if the OCR (optical character recognition) function performed well. Your knowledge of presets, covered in the first two columns in this series, will come in handy here if the text has multiple errors. For example, if the text on the paper to be scanned has low contrast, such as that created by a copier that was low on toner, you can use the preset Black And White From Color Page setting to increase contrast. Go back to Normal view by pressing ESC.

Click File and Send Text To Word. Here you can choose to send text from a Current Selection (select text by clicking and dragging in the page pane), Selected Pages, or All Pages. Choose Selected Pages and click OK. Microsoft Word starts, and the text is copied to a new Word document, where you can edit the text in the same way as any other document. For example, you can fill in the spaces of a form by typing the information at the appropriate places.

The Arrange All configuration comes in handy when you want to copy or move pages from one document to another.

You can also copy and paste text from the page pane in Document Imaging to an existing Word document. Simply click and drag in the page pane to select text; click Edit and Copy Text; click in the Word document; and click Edit and Paste.

Organize Pages & Documents

You can save scans, called documents in Document Imaging, and organize them for future use by clicking File and Save. Documents are saved as TIFF (Tagged Image File Format) files, which are able to retain OCR information. The OCR text will be lost, however, if you open and save the TIFF file using another program. You can, however, rerun the OCR function later by opening the file in Document Imaging and clicking File and Recognize Text Using OCR.

You can select particular pages in a document and save them in a new document. Click the page in the thumbnail pane that you want to place in a new document. Click Edit and Move Pages To New File, and the new document is created.

You can move pages to different positions within the same document. Select one or more pages in the thumbnail pane. Click and drag the thumbnails to a new position.

You can also copy, delete, or move pages from one document to another. Click Window and Arrange All to tile all open documents. This makes it easy to copy or move pages among documents. Select the pages you want to copy in the thumbnail pane. Drag the selected pages to the thumbnail pane of the destination document. Move pages the same way, except hold the SHIFT key down while dragging to the new location. Delete pages by selecting them and pressing DELETE.

You can place previously created documents saved as TIFF files inside open documents. Click File and Insert File, select the file you want, and click Insert. You are given three options of where to place the inserted document.

As you have seen, Microsoft Office Document Imaging, available with Microsoft Office XP, provides powerful features for scanning documents that you can then manipulate in Microsoft Word. Put it to use if you find yourself dealing with documents you'd like to more easily manipulate. ▐▌

BY TOM HANCOCK

Quick Tips

Secrets For Succeeding In Common Tasks

BY STEPHEN J. BIGELOW

Printers

Question: My printer always spits out my documents with the first page on the bottom. Can I get my pages to print in the right order?

Answer: Printing normally starts with page one. When printers deliver the finished pages right-side up in the output tray, the page order winds up reversed. This forces you to spend time and effort reordering the pages. Word offers an option that will print your documents in reverse order, starting with the last page. In Word 2000, for example, click Tools and Options and select the Print tab. Select the Reverse Print Order box and click OK.

Hard Drives

Question: When should I clear space on my hard drive?

Answer: There is no single answer to that question. Most basic PCs ship with 40GB to 80GB hard drives, and high-end hard drives are readily available in the 200GB to 250GB range. With such massive storage available, you'd need to install a tremendous volume of files and applications before running short of drive space. Still, if you're looking for a general guideline to follow, try to maintain at least 20% free space on a hard drive. This should ensure ample space to install another few applications or support other tasks (such as defragmenting the drive). To check your free space, in Windows XP, click Start and My Computer, right-click your hard drive, and select Properties. The General tab displays a pie chart showing used (blue) and free (red) space. When you feel that your drive space is running a bit short, simply run the Add/Remove Programs wizard to remove unneeded applications or off-load unneeded data to CD-RWs (CD-rewrite-ables) or DVD-RWs (DVD-rewriteables).

Graphics Cards

Question: I installed a new video card, and the added resolution looks nice, but I see flicker on the monitor. The image didn't flicker before. Is there any way to stop this from driving me crazy?

Answer: When you installed the new graphics card and its drivers, the new display settings probably defaulted to a 60Hz refresh rate. That rate is slow enough to allow noticeable flicker, which can lead to eye strain, fatigue, and headaches. Configure your new graphics card to use a higher refresh rate. In WinXP, right-click your Desktop and select Properties. Click the Settings tab, the Advanced button, and the Monitor tab. Select a higher rate (such as 75Hz) from the drop-down menu. Now click Apply and OK.
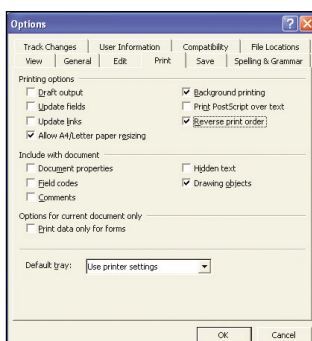
Microsoft Word can reverse the page order of your print jobs, helping to ensure that pages sort into the correct order in the printer tray.
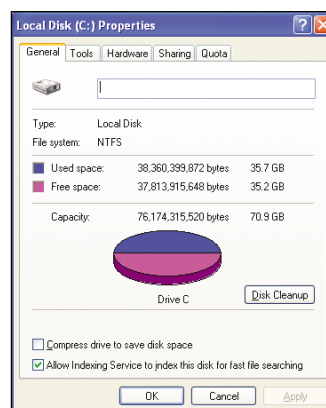
Check the hard drive's properties to determine the amount of free space available.
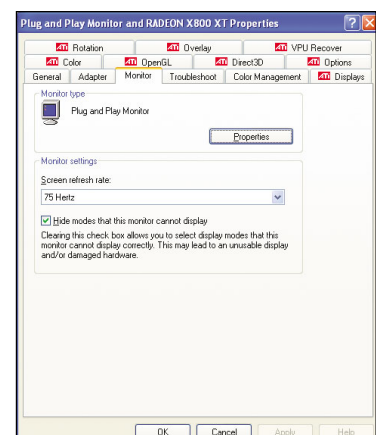
Select a higher refresh rate to reduce monitor flicker.

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System Clocks

Question: Why does my clock jump back a couple of hours shortly after I reset it?

Answer: You probably have the wrong time zone set and have set the PC to automatically synchronize its time over the Internet. When the PC attempts to synchronize its time, it looks at your time zone and tries to set the time accordingly. Double-click your clock in the System Tray, click the Time Zone tab, and ensure that you've selected the correct zone. Be sure to click Apply after any changes that you make. Once you're set to the correct time zone, click the Date & Time tab and set your time.

Laser Printers

Question: Is it OK to put my laser printer on a UPS (uninterruptible power supply)?

Answer: Maybe. The trick with laser printers is that they often require a significant amount of power (especially larger laser printers intended to support high-volume printing). When a UPS is forced to power a PC, monitor, and laser printer, the power all three devices require will significantly reduce the UPS's run time. In some cases, the current demand can overwhelm the UPS and trip the UPS's internal circuit breaker. Of course, that would cut off power and crash the PC anyway (thereby defeating the purpose of your UPS).

The main purpose of a UPS is to back up your PC and monitor long enough to save your work and shut the system down in an orderly fashion. Let the printer lose power—you can always restart a print job once normal power returns.

Networking

Question: I set up a wireless router in one part of the house, but the signal strength is very low in other areas such as the bedroom—sometimes my laptop even disconnects.

Answer: Wireless networking can relieve a lot of installation hassles, but the frequencies used in 802.11g equipment are typically affected by the same range and obstruction factors that impact cordless phones. Generally, walls, doors, and ceilings/floors can reduce the strength of your wireless signals. If you've installed the wireless router in a remote corner of the house, multiple obstructions (such as crossing several rooms between the wireless router and laptop) can significantly reduce your signal power.

There are some ways to get around this. Relocate the wireless router to a more central area of the house (rather than tucked away in a remote corner) and see if your performance improves. This is the easiest and cheapest way to optimize your wireless network because you don't need to buy any other equipment. If you cannot move the wireless router, try installing a wireless access point/repeater between your bedroom and the wireless router. If you're really looking to optimize your wireless network for future use, consider upgrading your router/laptop LAN (local-area network) card with some of the pre-N (pre-802.11n) wireless devices that promise additional range and bandwidth. Just keep in mind that a broader upgrade will cost you more money.

Input Devices

Question: I bought Microsoft Flight Simulator and a USB joystick. The joystick installed fine, but when I fly, the plane seems to bank down to the right. What's wrong with my joystick?

Even a digital joystick must occasionally be calibrated in WinXP.

Answer: The joystick probably needs to be calibrated. Remember that even though USB is a digital interface, the joystick is still mainly an analog device, so you must periodically remind the host computer where the center and extreme limits are located. In WinXP, open the Control Panel and select Printers And Other Hardware and Game Controllers. Highlight your new joystick from the device list and click the Properties button. Select the Settings tab and click the Calibrate button. The Game Device Calibration Wizard will start and walk you through the calibration process.

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September Web-Only Articles

Here's a list of this month's additional articles available to you online as a paid subscriber to *Smart Computing*. To view these articles, click the link in the Web-Only Articles area in the left column of the home page. (Only subscribers can read the complete article.)

Roxio PhotoSuite V7 Platinum

Microsoft Works 2005

Hardware

For all the latest product reviews, visit the Hardware Reviews & Comparison Charts area at SmartComputing.com (www.smartcomputing.com).

PC Operating Instructions

Linux: Share Windows Files With Linux
It's not always easy to share. But we'll show you how to make it a bit easier to do so when you have Linux and Windows machines on the same network.

Quick Studies

Quicken
The Register Window

Print Shop
New Features In Version 20

Corel WordPerfect 11
Dictionary Details

Browsers
Use Mouse Shortcuts & Gestures To Speed Up Web Browsing

Email
Arrange Email In Outlook 2003

Roxio PhotoSuite 7 Platinum
Add Borders

Security
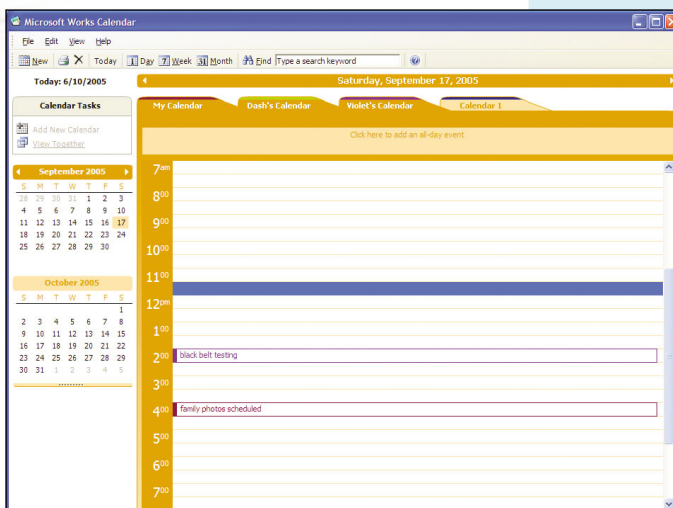Tips For Finding & Using Hotspots

Microsoft Access 2002
Text Boxes: Use Text Box Tool Or Field List?

Adobe PageMaker 7
Check Out Uses For Libraries

Microsoft Works 2005
Household Calendars

Print Shop

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Find More Online

We can't possibly fit every helpful tip, tweak, or troubleshooting tidbit in print. That's why you'll find a wealth of resources at our Web site, www .smartcomputing.com. Here are some tips for using our Web site to find more information about the articles in this month's print issue.

Spyware & Security Annoyances

If you have been taken over by spyware, adware, viruses, or other malicious intruders, don't get annoyed, get even. At the SmartComputing.com Tech Support Center, you will find a complete list of How To Get Rid Of . . . articles that walk you through how to get rid of the most annoying intruders. Just click the Tech Support link on the SmartComputing.com home page, scroll down to the Security & Privacy area and click the How To Get Rid Of . . . link just above the Web log. A list of How To Get Rid Of articles is then shown. Click the item you are looking for and read how to eliminate the annoying intruder.

Security & Privacy

It's called "malware" – destructive viruses and worms, intrusive spyware & adware, and nuisances like spam email and unwanted pop-ups (read "A Malware Primer"). Check our Weblog for the latest news and read our Basic Troubleshooting articles to learn how to diagnose & combat them.

How To Get Rid Of ...
We'll tell you what to do to eliminate malware programs from your computer.

Annoyances Related To Networking, Email & The Web

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My Personal Library

Search All Articles

Read Hardware Reviews
Create Comparison Chart

Read Software Reviews

Web-Only Articles

Q&A Board

Computing Chat Room

Directory Of Web Sites

Computing Dictionary & E

Daily Tip Archive

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Extras

Compiled by Jennifer Johnson
Graphics & Design by Lori Garris

Card Readers: A Primer

Simplify Your Life With A Flash Memory Reader

I f you've recently shopped for memory for your digital camera or other device recently, you've noticed the wide variety of memory cards on the market today. Choosing one format over another can be difficult, especially if you're unsure about what type of flash memory card your device uses.

Transferring files from your memory card to your computer can also be a bit of a mess, especially if you have multiple devices that use different types of memory cards. Instead of connecting each device to your computer and dealing with a plethora of intertwined cables to transfer files, simplify things by using a card reader.

The Kingston USB 2.0 Hi-Speed 6 in 1 CF/SM/SD/MMC/MD/MS Reader ($24; www.kingston.com) has a small footprint and can read six types of memory cards.

Card Readers

While shopping for a card reader, you're sure to find many styles, ranging from single format, thumb-sized card readers to multiformat readers that occupy a bit more space but will accept several different types of cards. For further consolidation of cords and devices, look for laptop computers and printers that have built-in card readers.

Even though there are different styles of card readers on the market, nearly all of them connect to a USB port on your computer and turn your memory card into a removable storage drive. The beauty of card readers is that you can transfer files between your card and computer without having to mess with plugging in the camera or other device. Another benefit to card readers is that they can generally transfer files faster than the device can, and they use power from the computer instead of the batteries that power the device.

Memory Cards

There are many types of memory cards on the market today. Check your device to see what type of card is compatible. Here are some of today's most popular card types.

CompactFlash (CF)

MultiMediaCard (MMC)

eXtreme digital (xD-Picture Card)

Card Readers

Card readers vary in size, shape, and format compatibilities. The following is a sampling of what you'll find on the market.

You can place the SanDisk ImageMate 12-in-1 Reader/Writer ($34.99; www.sandisk.com) in a docking base as shown to save even more desk space.

The Crucial Hi-Speed USB 12-in-1 Card Reader ($15.99; www.crucial.com) has four slots that can read 12 card types.

The Crucial Hi-Speed USB MMC/SD Card Reader ($7.99; www.crucial.com) has one slot that can read MultiMediaCard and Secure Digital cards.

You can turn a MultiMediaCard or Secure Digital card into a USB Flash drive with the Universal Memory Drive ($19.95; www.iogear.com).

The Kingston PCMCIA 4 in 1 Adapter ($32; www.kingston.com) supports four types of cards and works with any PCMCIA port on your laptop.

How Fragile *Is* A Flash Memory Card?

Because your memory card contains a lot of important pictures and data, you'll want to take care of your cards to ensure the safety of their contents. Crucial Technology, a manufacturer of memory cards, recommends holding the card by the edges and keeping it away from direct sunlight, moisture, and magnetic fields.

While we agree with these recommendations, we also realize that mistakes do happen. We tested a few common mishaps to see if our SD card could handle it.

Sunlight & Heat
After leaving our memory card on the dash of a car for an entire summer afternoon, we were still able to read the data on it.
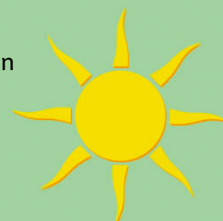
Magnets
We encounter magnetic fields more often than we realize. Our card was still readable after rubbing it on a speaker magnet 10 times.

Water
It's no secret that water and electronic devices don't mix. But all of us have experienced the dread of washing something in our pocket that we've forgotten about. Our memory card worked fine even after we purposely sent it through a washing machine. (Of course, we didn't try ironing it.)

Airport Screening Equipment
You can rest easy going through airport security. The Transportation Security Administration claims that its equipment will not damage digital cameras or storage cards.

Secure Digital (SD)

SmartMedia Card (SMC)
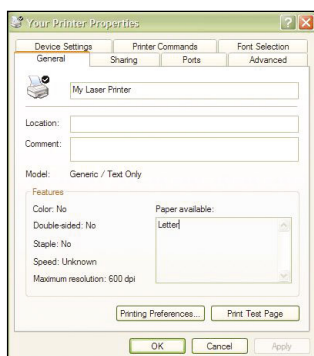
Mini Secure Digital (miniSD)

Memory Stick (MS)

What To Do When . . .
Your Printer
Spews Gibberish

One of the most important computer peripherals is the printer. However, printers are like car tires—you don't pay much attention to them until they give you problems. Printer problems are aggravating. While you can often solve ink smears and paper jams with a new ink cartridge or a shot of compressed air, more complicated issues still arise. Have you printed a document, only to find your printer printing page after page of characters? Small boxes and shapes called ASCII (American Standard Code for Information Interchange) characters, print randomly. This common problem is easy to fix, and if you haven't already experienced it, there is a good chance you will someday.

Get To The Root

When a printer is printing gibberish, three components may be at fault.
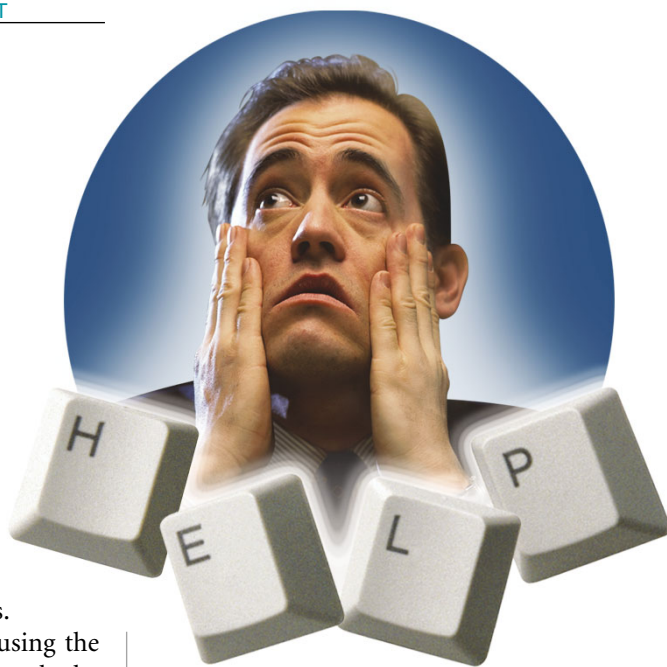- Application issues, such as an incorrect configuration or a bug in the software
- Faulty or invalid printer drivers
- Faulty or incorrectly configured hardware, including a malfunction within the printer itself

Before trying any troubleshooting, shut your printer off, wait 60 seconds, and restart it to see if that solves the problem. If that doesn't work, check that the application you're printing from is compatible with your printer. Open a different application and attempt to send a print job to your printer. If the problem only occurs while working with a single application, there is an issue with your software or a compatibility issue with your print drivers. Upgrade your print drivers using the steps detailed below and consult the software documentation to investigate your problem. If all programs are printing incorrectly, print a test page

Send a test page from Windows via your printer's Properties dialog box.

from the printer's control panel. Click the Printers icon in the Control Panel and right-click the printer's icon. Select Properties. Click Print Test Page. If the test page prints incorrectly, it's best to install the latest drivers for your printer before going any further.

Device manufacturers offer printer documentation and drivers through their company Web sites. Before you search for your printer drivers, you will need to know the model number of your printer and the version of the operating system you're using. The model number is usually printed on the front of the printer. Check your OS version in Windows by right-clicking the My Computer icon on your Desktop and selecting Properties. The version of Windows is listed on the General tab. Go to the printer manufacturer's Web site and look for a support/service

Windows automatically detects your printer type and attempts to load drivers from any available source.

area where you should find a file/driver download area. You will need to specify the model of your printer and OS. Exact instructions for downloading and installing the latest drivers will be available on the site. It's a good idea to reboot your computer after any device driver installation. If the problem persists after the driver update, it's time to start looking at device hardware as a possible culprit.

The first step in investigating hardware failure is to ensure that your PC, OS, and USB or parallel port are still functioning. Figure out if your computer's components are at fault by attaching your printer to a different PC, installing the proper drivers, and trying to print. If you're still unable to print correctly, swap your printer's data cable for one you know works. If you've completed all of the aforementioned steps to no avail, professional repair or replacement are your only options. Today's printers are more affordable than ever, so be sure to compare the price of a new printer to any repair estimates: Buying a new printer will usually be cheaper. ▌▌

BY GREG ROBINSON

Modem Troubleshooting

Won't You Help Me Make That Call?

For as long as modems have been around, the technology is still less foolproof than you might expect. And no matter how long you've been going online, modem problems can still arise and interrupt your Internet experience. But with a little patience and a little troubleshooting, you can get back on track. We'll help you understand some common problems and their solutions.

Modem Technology

Understanding the basics of how modems work will help you identify and resolve problems more effectively. The telephone system, of course, was designed for voice and not data traffic, and any such retrofitted technology is bound to occasionally run into issues.

Modems serve one purpose: translating between digital information understood by computers and analog sounds that travel over phone lines. Your computer uses its OS (operating system) and the modem manufacturer's device driver software to convert data to sound. The modem then uses the phone line (connected via jacks on the modem and the wall) to transmit those sounds to a modem on the receiving end, which undertakes the same process in reverse. When you're receiving data, your modem listens to the sound made by the sending modem and translates for the OS, which provides data for whatever application you're using (an Internet browser or email client, for instance). Any such chain of conversion and transmission has multiple points of failure. Identifying those points and systematically eliminating them, one by one, is the essence of troubleshooting. Starting with the easiest and most common possibilities, you can quickly narrow down the options, identify the problem, and find a solution.

Common Issues

Problem: No dial tone
Likely Cause: Loose cable or dead phone line
Solution: The simplest (and most common) source of dial tone trouble is the phone line. If you can't get online, or don't hear a dial tone from your computer, check the line first. Make sure the cable is still plugged in, both to the modem and to the wall jack. Kids, cats, and vacuums have a way of disconnecting things. And, of course, if the phone line is dead, nothing else matters. Pick up the phone—if you get a regular dial tone, try unplugging the phone line from the modem and connecting it to a regular telephone. If you still don't get a dial tone, there's a problem with either the cord or the jack. Check the cord (or try another one) to narrow down the possibilities. If none of these steps solves the problem, explore some of the other possibilities below.

Problem: Busy signals and dropped connections
Likely Cause: Service provider congestion or dependability
Solution: Few online phenomena are as frustrating as endless busy signals and connections terminated in the middle of an important download. If you're having trouble getting or staying online, the primary culprit is probably your ISP (Internet service provider). First, call the ISP's service hotline (or visit its Web site from

another computer) to check for network outages or degradation. If there's no identified reason for an outage (or if you just want to get a faster or more reliable connection), try using your ISP's connection software to select a new number to dial. If the software doesn't list multiple local numbers, call your ISP or visit its Web site: Many providers add new local numbers without promptly updating the software.

You should also check your Windows connection settings to avoid **timeouts** (getting disconnected after periods of inactivity) and other connection limitations. From your Windows Control Panel, select Internet Options and click the Connections tab. Select your service from the Dial-up And Virtual Private Network Settings box and click the Settings button. Click the Advanced button and uncheck both the Disconnect If Idle For 20 Minutes and Disconnect When Connection May No Longer Be Needed boxes. If you get kicked off the Internet by incoming calls, contact your telephone provider to find out how to temporarily disable call waiting. Finally, if changing your settings doesn't help and you can't get reliable numbers from your ISP, it may be time to shop around for another provider. Check with other prospective providers for local number availability and reliability guarantees.

Problem: Dropped connections or poor performance
Likely Cause: Noise on the line
Solution: If getting online isn't a problem, but staying online (and getting decent speed) is, you may have a noise problem. No, the neighbors aren't complaining about your speaker volume again—we're talking about electrical noise on your phone line. Distortion and electrical noise can make it hard for your modem to communicate with the outside world, slowing down and even occasionally losing connections. Connect a phone
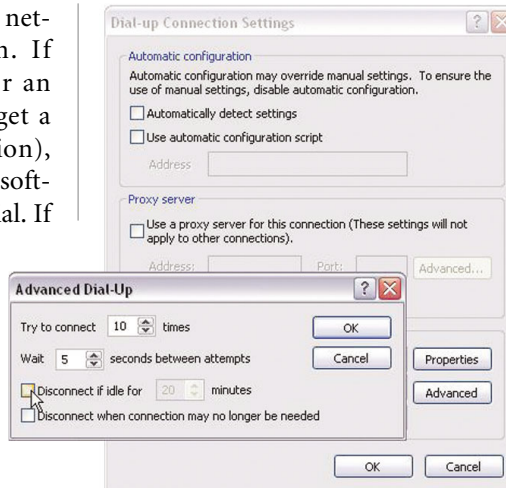
Uninstalling and reinstalling both modem and service provider software will often clear up any conflicts.

to the modem's line, press any button besides 0, and listen without the dial tone. If you hear snaps, crackles, or pops, troubleshoot the source. Check to see if the phone cable is bundled with or near other wires. Being too close to too many other wires can create electrical interference and noise. If that doesn't work, try turning off any cordless phones, fax machines, or answering machines. Check the length of your phone cord from the wall to the modem. Use the shortest cable possible, minimizing the chances for interference and signal degradation. Finally, if possible, hook up a phone to the jack outside your house or where the line comes in and see if the noise exists before even entering your house. If the problem goes all the way back to the phone company, there's little you can do except call customer service to try to resolve the problem.

Problem: Modem error messages and failure to connect
Likely Cause: Device driver conflict or corruption

Solution: **Device drivers** are the software tools that let your modem communicate with the OS. Every piece of hardware in your system has them. Sometimes, through the course of installing or uninstalling various devices and applications, drivers cross and become corrupted. If you're getting modem-specific errors, or are having general trouble making a connection, a bad driver may be the culprit. First, check the status of your modem and its drivers. In Windows XP, right-click My Computer, select Properties from the context menu, and choose the Hardware tab in the resulting dialog box. Click the Device Manager button and find the Modems entry in the list of device types. Expand the listing by clicking the plus sign (+) on the left, right-click your modem model, and select Properties. View the General and Driver tabs for model, driver, and status information, looking for any alerts or error messages.

Start by finding the disc that came with your modem, uninstalling any modem software (from the Control Panel's Add Or Remove Programs option), and reinstalling the manufacturer's device software. If that doesn't work, you may need an updated

Check the status of your device drivers to make sure none are corrupted or malfunctioning.

version of the driver, or the modem may need a firmware update. Obviously, you can't go online to download it if your modem's not working, but if you can access the Internet from another machine, visit the manufacturer's Web site and download any updates. Save them to a CD, floppy diskette, or removable drive and install them on your system. If you don't have access elsewhere, you may need to call the manufacturer's service hotline and ask if it can send updates on CD. If you have a system

or motherboard with an integrated (built-in) modem, rather than a separate card, you may need separate system restore software to reinstall the drivers.

Problem: Service provider error messages and failure to connect

Likely Cause: Service provider software conflict or corruption

Solution: If the error messages come from your service provider's software, or if you're having trouble connecting and can't identify an obvious line problem, your ISP's software may have become

Solving your modem's problems may just be a matter of reinstalling the software it came with.

corrupted. This is usually an easy fix: Uninstall your service provider's software from the Add Or Remove Programs option in the Windows Control Panel. Then, using the materials you received when you subscribed, reinstall the software and set it up as you did before. Sometimes programs corrupt each other, and a reset of ISP software may be all you need.

Problem: Computer can't find modem

Likely Cause: Unseated card

Solution: Whether through jostling the case, the slow pressure of plugging and unplugging phone cords, or just Murphy's Law, your modem card can

Modem Troubleshooting Questions

1. Is the phone line securely plugged into both the modem and the wall?

2. Is the line working for telephones?

3. Do you have the correct (and latest) local dial-up numbers from your ISP?

4. Are Windows settings clear of timeouts and other potential complicating factors?

5. Does your phone line suffer from excessive noise?

6. Are device drivers functioning and up-to-date?

7. Is the service provider's software functioning?

8. Is the modem securely seated in a functioning slot?

sometimes come loose in its slot. If your computer can't find the modem in the Device Manager, and reinstalling drivers doesn't help, it's time to crack the case.

First, disconnect the power and all other cables from behind your computer. Remove any screws holding down the lid and look inside to find the modem. Most models connect via the PCI (Peripheral Component Interconnect) interface, which are the long, white expansion slots. If your modem is built into the motherboard, you won't have a card to check and may need to purchase a separate modem if
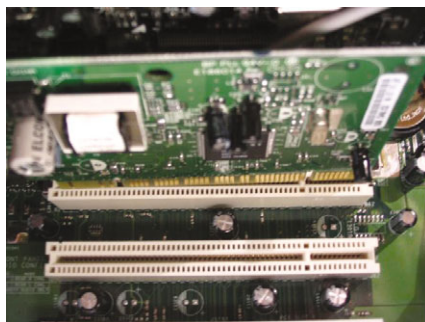
You might need to remove and reseat your modem to ensure a proper fit.

reinstalling drivers doesn't work—you can't feasibly replace or troubleshoot the hardware for built-in modems. After finding the modem, remove it from the slot, check for any physical

damage to the card or slot, use a can of compressed air to blow out any dust or debris, and reseat the card. Use a gentle rocking motion, with firm and steady pressure, until the card snaps firmly into place. Without replacing the cover, reconnect key system components, boot up, and try again.

If your machine still doesn't recognize the modem card, or if you still can't get the modem to work, try moving the card to a different slot using the same procedure described above. If that doesn't work, your modem hardware has probably been irreparably damaged or corrupted. You'll need to buy a new one, uninstall your existing drivers, and install the new model. Sure, this scenario can be frustrating and inconvenient, but look on the bright side: As computer-hardware upgrades go, you're getting

If a modem dies, a replacement will only set you back about $20.

off light with a $20 price tag and half-hour project.

Whether it's a simple matter of an unplugged phone line or a complete and irreparable failure of the physical card, troubleshooting modem problems is a relatively straightforward process. ▌▌

BY GREGORY ANDERSON

Examining Errors

BY JEFF DODD

Problem: A reader suddenly began receiving an error message each time he started his PC. The error requires him to step through a series of DOS instruction screens in order to launch the OS (operating system), which in this case is Windows XP. The reader wants to know how he can eliminate the error message.

Error Message: "Error 0251: System CMOS checksum bad – default configuration used. Press F1 to reconfigure or F2 to resume."

error 0251

Solution: This "0251" error indicates that the **CMOS** (**complementary metal-oxide semiconductor;** a memory chip that holds data the computer needs each time it starts, such as the current time and the BIOS [Basic Input/Output System]) has become corrupted or damaged, typically because of one of these three reasons: A BIOS update has gone awry, a recently installed program incorrectly modified the BIOS, or the computer battery is running out of power.

If the reader recently upgraded the BIOS, the first thing he should do is edit the BIOS settings. The BIOS developer can help him access the BIOS Setup utility and configure the BIOS accordingly. Likewise, if he recently installed a program that may have modified the BIOS, he should contact the software developer for assistance in reconfiguring the BIOS for the new program.

If the reader did neither of these things (and we suspect he didn't), the culprit is probably a faltering battery. The reader can probably replace the battery on his own, but the process varies widely depending on the type and age of his computer. We suggest he consult the documentation that came with his computer or contact the computer manufacturer to determine the type of battery involved, where to purchase a new one, and how to replace it. If he can, the reader also should access the BIOS Setup utility and write down the BIOS settings so that he can reconfigure the BIOS correctly after he installs the replacement battery. For additional help, the reader should review "How To Install A CMOS Battery" at www.smartcomputing.com/scoct04/cmos.

Once the new battery is in place, the reader will have to reconfigure the BIOS and reset the system time, but the error message shouldn't appear again. ▮

Problem: Whenever a reader opens the latest version of Ad-Aware SE Personal on her WinXP-based PC, she receives a prompt to check for new definition updates. She dutifully attempts to do so but receives an error message instead. The reader wonders whether the utility is doing her system any good without the latest updates. She also wants to know how to eliminate the error message.

Error Message: "Error retrieving update. Installed definitions file: SE1R8 13.09.2004. Installed core application: 1.05 Personal."

Solution: To answer the reader's first question: For the most part, yes, the latest Ad-Aware version does a good job for her system even without the most recent updates because the software comes bundled with a rather extensive catalog of definitions. These definitions account for all of the known spyware and adware that existed at the time Lavasoft released the latest Ad-Aware version (www.lavasoftusa.com); however, they don't include any of the new adware and spyware variants that have emerged since then. For this reason, the reader is correct to assume she needs to update the definitions on a regular basis.

Ad-Aware SE Personal supports a manual update option that, as the reader has discovered, doesn't work properly because of a known bug in Ad-Aware SE Personal versions 1.04 and 1.05. As a workaround solution, the reader should reinstall Ad-Aware and select the Update Definition File Now option during the installation process. ▮

Problem: Every time a reader logs into Windows 2000, he receives an error message indicating that necessary system files have been replaced. The message prompts him to insert his Win2000 installation disc. Unfortunately, the reader lost the CD long ago and doesn't know how to proceed.

Error Message: "Files that are required for Windows to run properly have been replaced by unrecognized versions. To maintain system stability, Windows must restore the original versions of these files. Insert your Windows 2000 Server CD-ROM now."

Solution: The good news is that the reader doesn't need his installation disc to resolve this situation. The bad news is that he does need access to another computer running Win2000. Specifically, he needs to retrieve a copy of the No Liability Accepted certificate that VeriSign issued. The certificate is apparently missing on his system, either by accident or malicious intent. To ensure that it wasn't the latter, the reader should scan his PC for viruses and adware before attempting the following solution.

Once the reader completes the scans, he needs to find another Win2000 computer he can use temporarily. He then should open the Start menu, select Run, type **MMC** in the Open field, and click OK. The **MMC** (**Microsoft Management Console**; a management tool for administering system functions) will appear on-screen. The reader should open the Console menu and select the Add/Remove Snap-in option. In the resulting dialog box, he should click Add. A list of available **snap-ins** (management modules) will appear on-screen in the Add Standalone Snap-in dialog box. He should locate the Certificates snap-in in the list and double-click it. He then should follow the instructions that appear in the resulting wizard, selecting the Computer Account and Local Computer options when prompted. The reader can click Finish to close the wizard, and then click Close and OK to exit the Add/Remove Snap-in dialog box.

Back in the MMC, the reader will see a Certificates (Local Computer) folder listed in the Console Root window. He should burrow through the Certificates (Local Computer), Trusted Root Certificate Authorities, and Certificates folders to view a list of available certificates. He should peruse this list for the No Liability Accepted certificate and right-click it when he finds it. He then can select All Tasks and Export from the pop-up menu. When the Export Wizard opens, the reader should follow its instructions to select the DER Encoded Library X.509 format and name the file as NewCert. Upon closing the wizard, he should locate the resulting NewCert.cer file on the system and copy it to a portable storage device, such as a rewriteable disc, so that he can move it to his troubled computer.

After returning to his PC and inserting (or connecting) the portable storage device, the reader should copy the new certificate file to his PC's hard drive—it doesn't matter where—and then open the MMC. Next, he should access the Add Standalone Snap-in dialog box and again double-click Certificates. In the resulting wizard, he should follow the prompts to select the Computer Account and Local Computer options and then close the wizard. He should close the Add Standalone Snap-in and Add/Remove Snap-in dialog boxes, as well.

Back in the Console Root window in the MMC, he should open the Certificates (Local Computer) folder and right-click the Trusted Root Certificate Authorities folder. Next, he should select All Tasks and Import from the pop-up menu. When the wizard opens, the reader can follow the on-screen instructions to locate the NewCert.cer file on his PC—he needs to make sure X.509 Certificate is selected from the Files Of Type drop-down menu—and place the file in the Trusted Root Certificate Authorities Store. When he finishes following the wizard's instructions, he should verify that the import was a success and then close the MMC.

Rebooting his computer is the last step in the process, and hopefully he won't see the error message again. ▌

Fast Fixes

Security Update
For Microsoft Windows XP

Problem: Your copy of WinXP has a security flaw in the HTML (Hypertext Markup Language) Help component.

Solution: Download and install this 1MB update to repair the flaw and protect your PC. To download the update, type the URL (uniform resource locator) we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB896358** in the Keywords text box and click Go. Click the link named Security Update For Microsoft Windows XP (KB896358), and on the next page, click Download. After the file transfer, double-click the file (WindowsXP-KB896358-x86-ENU.exe) and follow the on-screen prompts to complete the installation.

www.microsoft.com/downloads

Windows 2000 Security Update

Problem: Microsoft discovered a flaw in Win2000 that could let a cracker potentially damage or steal data on your computer.

Solution: Download and install this 739KB update to fix this bug. To download the update, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB893066** in the Keywords text box and click Go. Click the link named Security Update For Windows 2000 (KB893066), and on the next page, click Download. When the file transfer is complete, double-click the file (Windows2000-KB893066-v2-x86-ENU.exe) and follow the on-screen prompts to complete the installation.

www.microsoft.com/downloads

WinXP Update For Outlook Express

Problem: In Outlook Express, you encounter a problem where messages are improperly handled if the Subject line has the word "begin." You also might experience a display issue concerning watched threads in newsgroups. Or perhaps Outlook Express stops responding for no apparent reason.

Solution: Download and install this 1.2MB update. To download it, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB900930** in the Keywords text box and click Go. Click the link named Update For Windows XP (KB900930), and in the Validation Recommended box, click Continue. On the next page, you can choose to validate your copy of Windows. For faster service click No and click Continue. On the next page that loads, in the Genuine Microsoft Software box, click Download. After the file transfer, double-click the file (WindowsXP-KB900930-x86-ENU.exe) and follow the on-screen prompts to complete the installation.

www.microsoft.com/downloads

Adobe Acrobat 7 Update

Problem: Your copy of Acrobat has security vulnerabilities. Also, you encounter problems displaying forms and viewing PDF (Portable Document Format) files using a Weblink plug-in.

Solution: Download and install this 5MB update from Adobe. To download it, type the URL we listed below in the Address field of your browser window. Point to Support and click Downloads. In the Products section, find Acrobat and click the Windows link for this product. On the next page, in the Updates/Programs section, look below

Version 7.0.2 and click the link called Adobe Acrobat 7.0.2 Professional And Standard Update - Multiple Languages. Carefully read the info about this update and click Download (on the left side). When the next Web page appears, click Download again. After the file transfer is complete, double-click the file (Acro-Reader_702_Update.exe) to install the update.

www.adobe.com

Fix Of The Month

Update Rollup 1
For Win2000 Service Pack 4

Problem: Microsoft recently ended mainstream support for Win2000, but before doing so, it offered a last-minute update pack that fixed a number of problems with this OS (operating system).

Solution: Download and install this 31MB file to receive the final group of updates for Win2000. To download it, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **Update Rollup 1 for Windows 2000 SP4** in the Keywords text box and click Go. Click the link named Update Rollup 1 for Windows 2000 SP4, and in the Validation Recommended box, click Continue. On the next page, you can choose to validate your copy of Windows. For faster service, click No and click Continue. On the next page that loads, in the Genuine Microsoft Software box, click Download. When the file transfer is complete, double-click the file (Windows2000-KB891861-x86-ENU.exe) and follow the on-screen prompts to complete the installation. If you use a dial-up Internet connection, keep in mind that this large file could take many hours to download.

www.microsoft.com/downloads

Digital Photographer's Survival Kit...

Journal Entry - Day 2

Ship wrecked and floating aimlessly . . . I noticed a huge black fin slowly encircling me. It was a Megalodon Shark – thought to be extinct!

Good thing I had my digital camera and EZDigiMagic. While waiting for help, I've made multiple copies of these rare pictures.

Journal Entry - Day 3

Finally rescued!!!!

Thanks to EZDigiMagic, my photos were safely archived and are now worth millions!

Digital Photo
Storage-to-Go

DVD BURNER

20GB or 40GB HDD

- New designs and features that include:
  LCD display, file verification and disc spanning

- Choose direct transfer from your media card to either HDD, DVD, or CD

- Battery Operated* or AC Adapter

- Quick copy time

- Hassle-free photo storage - no computer needed!

CD BURNER

It's fast, it's easy, it's . . .

EZDigiMagic™

*4-AA Ni-MH rechargeable batteries used for CD and DVD burner - not included

EZ PnP™

www.ezpnp-usa.com

1-800-828-6475

Windows

Q. I purchased a Dell PowerEdge 400SC without an installed OS (operating system), but when I installed Windows XP Professional, it didn't load any drivers for the NIC (network interface card). I tried to add drivers using the Device Manager, but it couldn't find any on the WinXP Pro CD-ROM.

A. Dell markets its PowerEdge line of servers to small businesses that usually run either Windows Server or Linux on them. Although the 400SC is a fine computer that includes a 2.8GHz Pentium 4 CPU, an ATI video card, as well as support for SATA (Serial ATA) drives, to use the 400SC as a desktop PC will take a few extra downloads.

The first step is to download drivers for the NIC and the video card. Because Dell doesn't support running WinXP on the 400SC, you'll need to visit the NIC and the video card manufacturers' Web sites for the appropriate drivers.

To download and install the NIC driver, you'll need to use a computer with access to the Internet and then transfer the drivers to your PowerEdge 400SC computer. The 400SC uses an Intel motherboard with an onboard Intel Ethernet NIC, so you'll need to visit ftp://aie download.intel.com/df-support/4275/eng/pro2 kxp.exe to download Pro2kxp.exe. The download is approximately 4MB and should easily fit on a CD or other removable media. Once you've downloaded Pro2kxp.exe, transfer it to your 400SC computer and click the file to start its installation. The program will require a reboot, and then you'll be able to configure the NIC.

After downloading and installing the driver for the NIC, you should visit ATI's site to download drivers for the video card. WinXP does include a rudimentary driver for the video card you have, but ATI's site has an updated driver that will perform better than the default driver included with WinXP. To download it, visit www2.ati.com/drivers/wxp-ragexl-5-10-2600-6009.exe. When you've downloaded the driver, click it to launch the installation routine.

Online

Q: I have WinXP Home Edition with Mozilla's Firefox 1.0 as my browser. When I go to a Web site for the first time that requires me to enter a user ID and password, WinXP asks if I want my user ID and password saved (so the information will appear automatically every time I revisit that site). I clicked No after entering my user ID and password at four Web sites, but now that my situation has changed, I decided that I would like WinXP to automatically enter my ID and password at those same four sites. Can you help me figure out how to get WinXP to ask me again about whether it can save my ID and password for those four sites?

A: It isn't WinXP that controls this function of "remembering" IDs and passwords for sites; it's your browser that is calling the shots. With Firefox running, open the Tools menu and select Options. When the Options dialog box opens, select Privacy in the left pane and expand the Saved Passwords section in the right pane by clicking the plus sign (+) next to the section's title. In your case, you'll want the Remember Passwords checkbox to have a check mark. Then, click the button labeled View Saved Passwords. When the Password Manager dialog box opens, choose the Passwords Never Saved tab. The items listed here are the sites for which you indicated you didn't want to store IDs and passwords. Find the four sites you're referring to and delete each one from the list. The next time you visit these sites, Firefox will again offer to remember the IDs and passwords for you.

Hardware

Q. I have a Compaq desktop computer with a 70GB hard drive and WinXP (Home Edition), which I purchased in February 2005. I decided to upgrade my system by removing the 70GB hard drive and replacing it with a 110GB hard drive that I had taken out of another computer. After doing so, I booted the computer and pressed F10 to "Restore" my hard drive to the "Factory Settings." I had six CDs with the restore/factory files on them and the computer accepted them and went through the restore process. When the restore process was complete, I removed the last CD and shut down the computer, but when I tried to restart the computer, I received an error message that told me to contact the Hewlett-Packard support staff. So, I contacted HP's support department, and someone there told me I needed a new motherboard. HP sent me a motherboard, but after I installed it, I still received a "Code Purple" error message. My understanding is that the motherboard, hard drive, and restore set of CDs are tattooed in some way so that you can't upgrade your computer. This may be true because once I reinstalled everything to return the PC to its original state, the computer worked fine. Can you shed any light on this "Code Purple" error?

A. When a computer manufacturer ships a system with WinXP already installed, it has some options on how it can handle the licensing and authentication for Windows: It can send you an OEM (original equipment manufacturer) version of WinXP with the normal authentication code used during installation, or it can send customized CDs that don't require a code. Most OEMs have opted for the latter option.

There are several good reasons for this. First, the OEM can ship the PC with drivers that WinXP may not include. Second, the OEM also can include extra applications that add value to your computer. The downside to this option is that the OEMs' customized CDs typically only work on the hardware that originally shipped with the computer. This arrangement is designed to prevent someone from using the WinXP installation CDs on a second computer.

How do OEMs do this? Normally, OEMs add a small program to the installation routine that probes your system either during the installation/restore process or when your computer boots up. This probe looks for specific hardware (such as a particular hard drive model, CPU type, motherboard model, etc.) that the OEM knows is included in your system. If one of these hardware components is different than what the installation/restore program is expecting, the entire process will fail. In the case of Compaq and HP hardware, this is known as a "Code Purple" error.

OEMs are sometimes elusive about exactly which hardware items they include in the approved profile. Of course, they don't want to have people pirate Windows, but some also don't want to support a wide variety of hardware devices.

If you still want to use your 110GB hard drive, you have two options. The first option is to purchase a full version of WinXP and perform a clean installation. (You may need to download additional drivers for your computer from HP's Web site after the installation.) The second option (and the one we recommend) is to use both the original 70GB hard drive and the additional 110GB hard drive in the same system. You can use the 110GB hard drive for additional storage, while storing WinXP and your applications on the original 70GB hard drive.

Windows

Q: My computer has Windows 98 Second Edition, and while it's running, it keeps making the sound of programs shutting down—a sound that I assigned to this function. This doesn't bother me except when I'm trying to run ScanDisk and I receive the message, "ScanDisk has had to restart 10 times because of programs writing to this disk. To avoid this message shut down all programs." The problem is that I don't have any programs running (at least not to my knowledge) other than ScanDisk, and because of ScanDisk's constant need to restart, I can't get the utility to run a complete scan. I know the computer is doing something while this is going on, but I don't know what.

A: With all Windows versions, there's a lot more going on behind the scenes than many users realize. In Win98 and newer OSes, however, you can actually find out which programs are running in the background. Open the Start menu and click Programs, Accessories, System Tools, and

System Information. (Or you can click Run from the Start menu, type **msinfo32** in the Open field, and click OK.)

When the application opens, click to expand the Software Environment entry, and then select Running Tasks and Loaded Modules separately to see just how much is going on in the background. You also can click Startup Programs to see whether there's some other type of application running, such as antivirus and/or anti-spam software. These types of programs can cause problems for disk-level utilities, such as ScanDisk and Disk Defragmenter. That's why Microsoft recommends running Win98 in Safe Mode before you run a utility such as ScanDisk.

In Safe Mode, Win98 doesn't load memory-resident programs, nor does it load any but the most rudimentary drivers (just enough to produce an image and accept input from your keyboard and mouse). To start Win98 in Safe Mode, press and hold the CTRL key on your keyboard as you're starting the system. Eventually, Win98 will acknowledge this and display an on-screen Windows Startup menu that will include Safe Mode as one of its options.

After entering Safe Mode, you can run ScanDisk. When the utility finishes its scan, restart Win98 normally.

Online

Q: I am running WinXP Pro on a Gateway 600 laptop. I'm currently using Trend Micro's PC-cillin for antivirus and firewall tasks. It works great, but it keeps identifying Svchost.exe as a threat. My firewall also stops Svchost.exe from accessing the Internet. According to Trend Micro's Web site, Svchost.exe is a valid Microsoft application, *except* when a Trojan horse has hijacked it and set up similarly titled software.

I searched my system for Svchost.exe and found three occurrences of it. Also, when my firewall setting was set to High (blocking most attempts) and Svchost.exe tried to connect to the Internet, my ability to use the Internet for such tasks as checking email and Web surfing was stopped. I had to lower the firewall's setting to the minimum in order to check email or conduct searches online. I thought a virus had taken over my computer, so I backed everything up, wiped my hard drive clean, and am in the process of reinstalling my programs. However, during the reinstall process, I noticed that Svchost.exe was still trying to access the Internet. So now I think that the Svchost.exe on my newly formatted drive is the legitimate one from Microsoft. But how do I know? Can you help? Microsoft and Trend Micro haven't responded to my queries, and I'm getting frustrated.

A: Among other tasks, Svchost.exe is responsible for managing WinXP's RPCSS (Remote Procedure Call Server Service). Over the past few years, security issues with RPCSS have made it the target of several attacks, and that's why Trend Micro probably offered a warning about the possibility of a Trojan horse hijacking Svchost.exe.

What is Svchost.exe? In one of its Knowledge Base articles, Microsoft describes the activities of Svchost.exe this way: "Svchost.exe checks the services part of the Registry to construct a list of services that it must load. Multiple instances of Svchost.exe can run at the same time. Each Svchost.exe session can contain a grouping of services. Therefore, separate services can run, depending on how and where Svchost.exe is started. This grouping of services permits better control and easier debugging."

But to address your identification question, there's a fairly straightforward solution: WinXP has an application called SFC (System File Checker). You'll need Administrator privileges to run it and scan protected system files to verify their versions.

If SFC finds a system file that has been overwritten, it will ask to restore the original file, either from a cache folder (located at %Systemroot%\System32\Dllcache; note that %Systemroot% is usually referred to as C:\WINDOWS) or from the WinXP installation source files. When SFC runs, it will also repopulate the cache. Unfortunately, there's no way to tell SFC to check only your Svchost.exe file; instead, it will check all of your protected system files, but perhaps that's not a bad idea.

For more information, visit the Microsoft Help And Support site (support.microsoft.com), type **310747** in the Search The Knowledge Base field, press ENTER, and click the Description Of Windows XP And Windows Server 2003 System File Checker (Sfc.exe) link.

Online

Q. I have a huge number of messages saved in about 15 different files via my Hotmail account. I'm constantly worried that Hotmail will have a glitch, and I'll lose all of these messages. Is there any way to back up all these files at once, or must I back up each one individually?

A. Unfortunately, there's no simple way to back up email messages from your Hotmail account. Even if you use Outlook Express to access your Hotmail account, your email will still be retained on the Hotmail servers. Because Hotmail has had numerous outages that resulted in losing its customers' email and address book information, your fears are certainly legitimate. One of the downsides to a free email service is that you have no recourse if something goes awry.

Our recommendation is to back up your files as best as you can and switch to a different email service. Hotmail has no intention of providing a backup feature, and even if it did have such a feature, it would require the company to start charging for its service. Most ISPs (Internet service providers) offer free email accounts (of course, you pay for the online connection service) and should be backing up your email messages just in case of a server failure.

Software

Q. I received an automatic update from Microsoft that advised me to download SP3 (Service Pack 3), but when I checked a related site after performing a Google search, I found out that SP3 is for Windows 2000. My computer only runs WinXP (and has since I purchased it). What gives?

A. The Web site you visited is correct; at the time of this writing, the most recent service pack for WinXP is SP2 (Service Pack 2), and Win2000 is the OS that requires SP3. However, depending on what else you have installed on your system, the SP3 that Microsoft's automatic update is referring to may not be for your OS but for a different application.

If you're using Microsoft's Office 2000 or Office XP, there's a SP3 available for those products. There's also a SP3 for SQL Server 2000. Our recommendation is to go ahead and install SP3 because it won't do anything to your WinXP installation and it should provide fixes for the appropriate application(s).

Hardware

Q. I own a Toshiba laptop computer, and every time I use the Toshiba AC adapter as a power source, the display becomes very dim. This has never happened to me before. For the time being, I'm using my laptop's battery as its power source, but do you know how to fix this problem?

A: You may want to ask Toshiba about this and tell its support staff which Toshiba laptop you have. There are literally dozens of models and versions in existence, and the answer to your question may be model-specific.

Even so, there are some general things you can consider. First of all, if your Toshiba laptop has a TFT (thin film transistor) display, there is a setting that may need to be reconfigured. Launch TSETUP and look for Battery Save Mode. If the setting is for Low Power or User Setting, the LCD's (liquid-crystal display's) brightness may revert to semi-bright. Set it to Full Power instead to see if that makes any difference. If you have a dual-scan display, check the thumbwheel on the right side (usually) of the display to make sure it's fully engaged. You also might try reloading the video driver.

Another alternative might be installing a BIOS (Basic Input/Output System) update for your laptop. Visit pcsupport.toshiba.com to see if a BIOS update is available for your specific Toshiba model.

If the solutions we provided don't solve your laptop's problem, you may have a warranty issue to consider (depending on the age of your laptop). Perhaps the AC adapter or a hardware component inside your laptop isn't working (or isn't working correctly) and can't provide your system with the appropriate voltage for your display. If you think your warranty still is in effect, be sure to mention this to Toshiba's support staff to see what your next step should be.

Frequently Asked Questions

Answers to users' most common questions about
USB Issues

FAQ What's the difference between USB 1.1 and USB 2.0 connections?

The difference is speed. USB 1.1 and 2.0 connections are nearly identical physically, but USB 1.1 ports only handle a maximum throughput of 12Mbps (megabits per second), whereas USB 2.0 ports can support a throughput of up to 480Mbps. This allows USB 2.0 to compete with other high-speed external bus interfaces, such as FireWire (also referred to as IEEE 1394). Prior to USB 2.0, you would have needed FireWire if you wanted to capture video data directly from a video camera because USB 1.1 was too slow to capture audio and video in real-time.

FAQ I have a device that's compatible with USB 2.0, but will it work with a USB 1.1 port?

Electrically, you can certainly connect a USB 2.0 device to a USB 1.1 port (and vice versa) without damaging the device or the port. But getting the device to operate properly on the slower port is another matter. Relatively low-bandwidth devices (such as USB joysticks or USB digital cameras for still snapshots) should operate normally on a low-bandwidth port such as USB 1.1.

Many higher-bandwidth devices (such as external USB hard drives) that rely on USB 2.0 ports for fast data transfers should work when connected to a USB 1.1 port, although their performance may be seriously impaired. For example, you can almost always connect an external USB 2.0 hard drive to a USB 1.1 port, but it'll have a throughput of only 12Mbps, so file transfers to and from the external drive may take several minutes (rather than several seconds).

Of course, any device that requires a specific amount of bandwidth may not function properly when attached to a USB 1.1 port. Consider an external CD/DVD rewriteable drive. Like the hard drive example we mentioned in the previous paragraph, you can connect the external CD/DVD rewriteable drive to a USB 1.1 port and write files to CD media (and even DVD media), but you won't be able to play music files (such as MP3s) or watch DVD movies from the external drive because the USB 1.1 port simply isn't fast enough to support these functions, therefore, a USB 2.0 port upgrade is necessary in this case. Ultimately, it's important to meet the recommended system requirements of any device you intend to attach to a PC.

FAQ What do I need to support a USB 2.0 port on my PC? Do I need special cables to connect USB 2.0 devices?

At a minimum, you'll need Windows XP SP2 (Service Pack 2) to fully support a USB 2.0 port already integrated with your system hard e. If you bought the PC with both WinXP and a USB 2.0 port installed, you don't need anything else to take full advantage of USB 2.0 port speeds.

If you don't currently have a USB 2.0 port available on your PC, you can easily upgrade your system by installing a USB 2.0 card into an available PCI (Peripheral Component Interconnect) slot inside of your computer case. For this type of upgrade, you'll definitely need to have WinXP SP2 running for full USB 2.0 support.

As for cabling, older USB 1.0 and 1.1 cables may not provide the best results when used to connect USB 2.0 devices and use them at top speed. Because higher data rates cause greater electrical noise, you may wish to purchase USB 2.0 cables that have been tested and rated to operate at speeds up to 480Mbps. In many cases, USB 2.0 devices already include suitable USB cables, so it may not be necessary to purchase separate cables.

FAQ With all of the USB ports on today's PCs, do I really need a hub?

The objective in developing the USB standard was to create a simple external interface that could support a potentially large number of devices, which users could attach and remove from a PC as needed (and without the configuration and installation hassles normally associated with more traditional internal devices). USB ports should support up to 128 devices—at least in theory. Most early PCs supporting USB offered only two ports, and users relied on USB hubs to expand the limited number of USB ports. Hubs are handy for sharing a USB port with a few low-bandwidth devices, but the signal latency introduced through one or more hubs can cause problems when attaching more sophisticated USB devices, such as printers and digital cameras, which often demand a direct connection to a USB port.

Today, a PC typically provides six to eight USB 2.0 ports, so the need for hubs has largely disappeared. If you do need more USB ports, it's still possible to share a USB port among several low-bandwidth devices (such as keyboards and mice) through a hub, thereby freeing another USB port for more demanding devices.

Support Headaches & Domain Name Dilemmas

Last January, I ordered an Alienware Aurora 7500 with SLI, and I've had nothing but problems with the company and the system. The PS/2 ports were dead directly out of the box, and a few days after getting the system, I noticed fine scratches in the paint job that are consistent with the packing material in which the system shipped. Alienware offered to send out a replacement motherboard and have a tech swap out the board, but it claimed there was little its staff could do about the paint job as it was beyond the 5-day limit for such defects (never mind the fact that I was moving and customer service isn't open on the weekends). Its customer service department did say it would examine the scuffed paint if I took some digital pictures and emailed them. Not having a digital camera, I had to purchase a disposable camera and have the images transferred to a CD (which cost me both time and money). To make matters worse, the tech who replaced my motherboard broke my case lock and the cathode-ray light. Dealing with these issues and talking to Alienware's customer service cost me even more time (some of it away from work as the tech who worked on my computer couldn't schedule appointments in the evening or on weekends). Alienware refused my request to return the system, saying that the 30-day return period had elapsed (by just a few days at the time). Worst of all, I noticed Alienware charged $175 to my credit card for the replacement motherboard it sent. In addition to reversing the charge for the motherboard, I feel I deserve some sort of partial refund for my time and expense. Failing that, I would love to be able to return the system for a full refund.

Paul Newman, Jr.
New York, N.Y.

We contacted Alienware's customer service department to get the ball rolling. A few days later, Brian from Alienware's Critical Issues Department contacted Paul to review the case.

Alienware credited Paul's credit card for the motherboard charge and eventually agreed to provide Paul with a 10% refund in order to fix all outstanding problems with the case (including the case lock, the cathode-ray light , and the scuff marks) and install additional sound-proofing material. Alienware expedited the repair process, and Paul received his system back approximately seven days later.

I recently signed up with HostItCheap.com to host my site. Unfortunately, when I enter the URL (uniform resource locator) I registered for, I'm taken to the wrong page. I've filed several Help tickets with HostItCheap.com to resolve the problem, but it continually closes the tickets early. At one point, HostItCheap.com mentioned that I needed to "change the domain's name servers to our name servers in order for it to be pointed to our servers …" I have no idea what this means, and HostItCheap.com won't provide more details.

Bill Townsend
Belleville, Ill.

We discovered with just a bit of research that Bill needs to work through another company to resolve his problem. When setting up a Web site, users need to register for a domain name via a hosting service. Most hosting services also can register a domain name, but some people opt to register with one company and have another company host their site. We performed a WHOIS search for Bill's domain name using Whois.Net (www.whois.net) and discovered that his domain name was registered through GoDaddy.com. In order to resolve this issue, Bill will have to update the name servers that GoDaddy.com associates with his domain name. We found an item in GoDaddy.com's FAQ (frequently asked questions) that explains how to change the name server information, and we forwarded that information on to Bill.

Dad's Tech Support, Inc.

Still In Business

'Cause, Darlin', time changes everything/But it won't change me. I love you . . . oh, I love you.
—*Kris Kristofferson*

The call could come at any time of the day or night, but usually the phone rang late in the evening, just about the time Lesley and I were getting ready for bed. My daughter Rachel would be on the other end of the line, desperately trying to finish a paper before it was due the next morning.

In her busy life—raising a daughter as a single parent, trying to finish college (on the seven-year plan, we always said), completing an internship—Rachel had little time to wrestle with the various technical problems that would arise as she typed a paper, researched something on the Internet, or worked on a PowerPoint presentation. Further, she figured that, as the daughter of the editor of a computer magazine, she should be immune from computer-related problems: Technical issues were for other people, and she simply had no time for them.

But, as we all know, there's no escaping the occasional glitch or program crash. That's when my phone would ring: "Daddy, my printer won't print." Or "Daddy, the animations in my PowerPoint presentation won't move." Or "Daddy, how come my modem won't . . . umm, mode?" (Or, on occasion, "Daddy, if I send you my paper, would you go through it and, you know, kind of . . . uh, make any little changes you think need to be there?" Daddy being an editor and all.)

I'm pretty sure that she sometimes called when she wasn't really having a problem at all—she just wanted an excuse to talk to Dad. She needed to touch base, even though we'd almost certainly spoken earlier that day. And that was fine with Dad. She knew that the "staff" of what we jokingly referred to as Dad's Tech Support, Inc., loved her more than anything, even more than life itself. That I would do anything to help her. That she meant more to me than I could possibly say, although I tried many times to say it. Try getting that kind of support when you call Dell or Microsoft.

I lost my daughter on May 28, 2005, just three weeks after attending her college graduation. She and two other people

Rachel Scher
February 17, 1981—May 28, 2005

were killed in a senseless act of violence that I can never hope to understand and that I can never find in my heart to forgive. In a small condo near the beach she loved so very much, five shots were fired, and every one of them tore a gaping hole in my heart and left it bleeding and raw. Months later, I can still hear every shot; terrible, cataclysmic sounds made by a cheap 9mm pistol. They spread and ripple and they echo in the night and come rolling in on me like brutal, raging thunder when I try to sleep. They strike unexpectedly, battering me at work during the day or on what should be a peaceful trip to the grocery store. They're the sound of my soul shattering like a fragile piece of crystal thrown to the ground. It's a sound that every parent dreads and that every parent who must bury a child hears.

Rachel was my pride and joy. She was the light of my life, and when that light was so brutally extinguished, the world became a much sadder, darker place. So sad and so dark that I'm not always sure I can get out of bed in the morning and face this new world in which I find myself living.

But I will, because as sad and dark as the world is now, it's not infinitely sad and not completely dark.

I have another daughter, you see. Like Rachel, Amy is beautiful, smart, and driven. She, too, is struggling to get through college, but she'll get there because it means so much to her and because she loved Rachel and admired her for having finally been awarded that degree. And, like Rachel, Amy herself has had occasion to call Dad's Tech Support, Inc.

And, of course, there's our granddaughter, Shaylyn. For me, she's a still, bright light in the roiling darkness; she's our genius baby, smart as a whip and just as beautiful as her mother. She's only 3 years old, so it'll be a little while before she needs to call Dad's Tech Support, Inc. And yes, for her, I guess we'll have to change the name to Grandpa's Tech Support. But when she does call, I'll be there. No matter what, I'll be there for both of them. ▐▌

BY ROD SCHER

Rod Scher *is the publication editor of* Smart Computing. *Contact Rod at* **rod-scher@smartcomputing.com.**